OVEMBER 1953 50¢

COMBAT FORCES

nfantry Journal • Field Artillery Journal

A SQUARE INFANTRY DIVISION?

★

Logistical Crisis on Normandy's D-Day

★

Promotion System In Transition

★

ARTILLERY'S NEW T-29 COMPUTER

FAST THINKING AND GUTS

Private Jesus R. Hernandez never lost his wits or his courage

EACH war we get involved in produces its surprises, some big and some little. Korea was no exception, and one of the small but annoying surprises was how seldom Americans escaped or evaded capture. No reason for this was ever established, only the fact was noted. Perhaps our training lacked something, or perhaps our indoctrination was faulty. That escape and evasion could be accomplished by fast thinking and guts was occasionally demonstrated.

This is the story of Private Jesus R. Hernandez, Company G, 7th Infantry.

On 1 June 1953 Hernandez's platoon was occupying a part of the MLR in the higher hill area. Shortly after dark, Hernandez, as part of a six-man outpost group, moved out onto the forward slope of the ridge, where it occupied camouflaged foxholes.

This outpost position had excellent observation and fields of fire towards the enemy, but visibility to the rear was blocked by brush and scrub growing fifteen or twenty yards back.

After midnight, while Hernandez and the corporal commanding the outpost were on alert, Hernandez reported three times that he heard movement in the brush. He suggested reversing the BAR, but the corporal decided to leave it covering the front approaches.

Hernandez was right, for immediately after his third warning, six enemy soldiers attacked from the rear of the outpost. Hernandez and the corporal promptly threw hand grenades, driving them back into the brush, but the action drew enemy artillery fire which destroyed the outpost. Hernandez was hit in both legs and both feet, two men were killed and the remaining three were so seriously wounded that they could not move.

As the artillery fire lifted, five or six enemy soldiers moved in from the rear, firing submachine guns. Hernandez threw a grenade and attempted to reverse the BAR, but the shelling had knocked down camouflage netting and entangled the weapon so that he could not free it. He jumped to cover in a nearby fold of the ground.

He saw the enemy go through the outpost position, shooting both the dead and the wounded. They took one body by the heels and began to drag it towards their own lines. This brought them towards Hernandez and he was discovered. He played dead, with his arms outstretched and a hand grenade cupped loosely in his right hand. One of the enemy took the hand grenade while another grabbed him by the feet and began to drag him towards the enemy lines.

To his horror, Hernandez discovered that the enemy was dragging him and the man through a friendly mine field. He thought seriously about attempting to tell the enemy that they were in the mine field, but remembering how the enemy had shot the dead and wounded a few minutes earlier, he believed he would be shot immediately if he showed any sign of life. He decided that if he was going to die, a mine explosion would be quick and take a few enemy along with him. Luckily, they got through the mine field without mishap.

After dragging the two about a mile, the soldiers stopped on top of a small but steep hill. Here, one of them kicked Hernandez viciously about the body and in the side. After about a dozen kicks, Hernandez managed to roll himself down the steep slope, stopping at the bottom of the hill, about forty yards away from the enemy.

One of the soldiers came running down the hill after him. The man had a submachine gun slung around his neck with the weapon dangling free in front of him. As he reached Hernandez, he leaned over to pick him up, but Hernandez seized the weapon, turned the muzzle into the enemy's face and fired a burst, killing him instantly.

The enemy soldiers on top of the hill started firing in his direction. But Hernandez, with considerable effort, managed to point his newly acquired weapon towards the crest of the hill, held the trigger down and emptied the drum. This drove the enemy back under cover. Hernandez staggered to his feet and was able to run about fifty yards to some heavy brush where he hid.

After a few minutes of excited talk the enemy soldiers began to search the area around the bottom of the hill. However, Hernandez had run partly up the hill, and had concealed himself so well that the enemy gave up their search after fifteen minutes.

HERNANDEZ waited another fifteen minutes, until he was sure the enemy had gone, and then began to crawl in the general direction of our lines. His wounds were bleeding and he was so weak that he was forced to stop every few yards to rest. Finally he reached the top of the hill, where he saw enemy artillery fire bursting on the forward slope of a ridge about a mile away. He assumed that the shelling was directed against our outposts, and was soon able to confirm this by spotting the muzzle blast from a tank in the same vicinity. After resting for about ten minutes he continued his crawl until he came to the edge of a mine field which he recognized. It took him another ten minutes to find a safe lane through the field.

Once through the field he saw some men on the skyline and crawled towards them. He felt sure that only Americans would be so exposed. He was right and he was soon challenged, recognized, and picked up.

Private Hernandez had done about everything that could be expected of a soldier. Although painfully crippled, he never lost his wits nor his courage. He defended his position as long as he could, and only afterwards did he seek his own safety. He took prompt advantage of the first opportunity afforded him to escape and was quick and bold enough to be completely successful. Most important, he never lost his determination to "survive" and escape from a fanatic enemy.

THE AUTHOR of this article requested anonymity as he said he had nothing to do with it except to write it. He is a colonel of twenty-five years of service in Armor and has contributed to this magazine previously.

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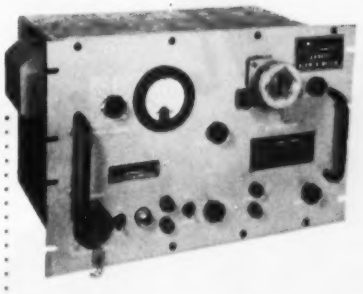

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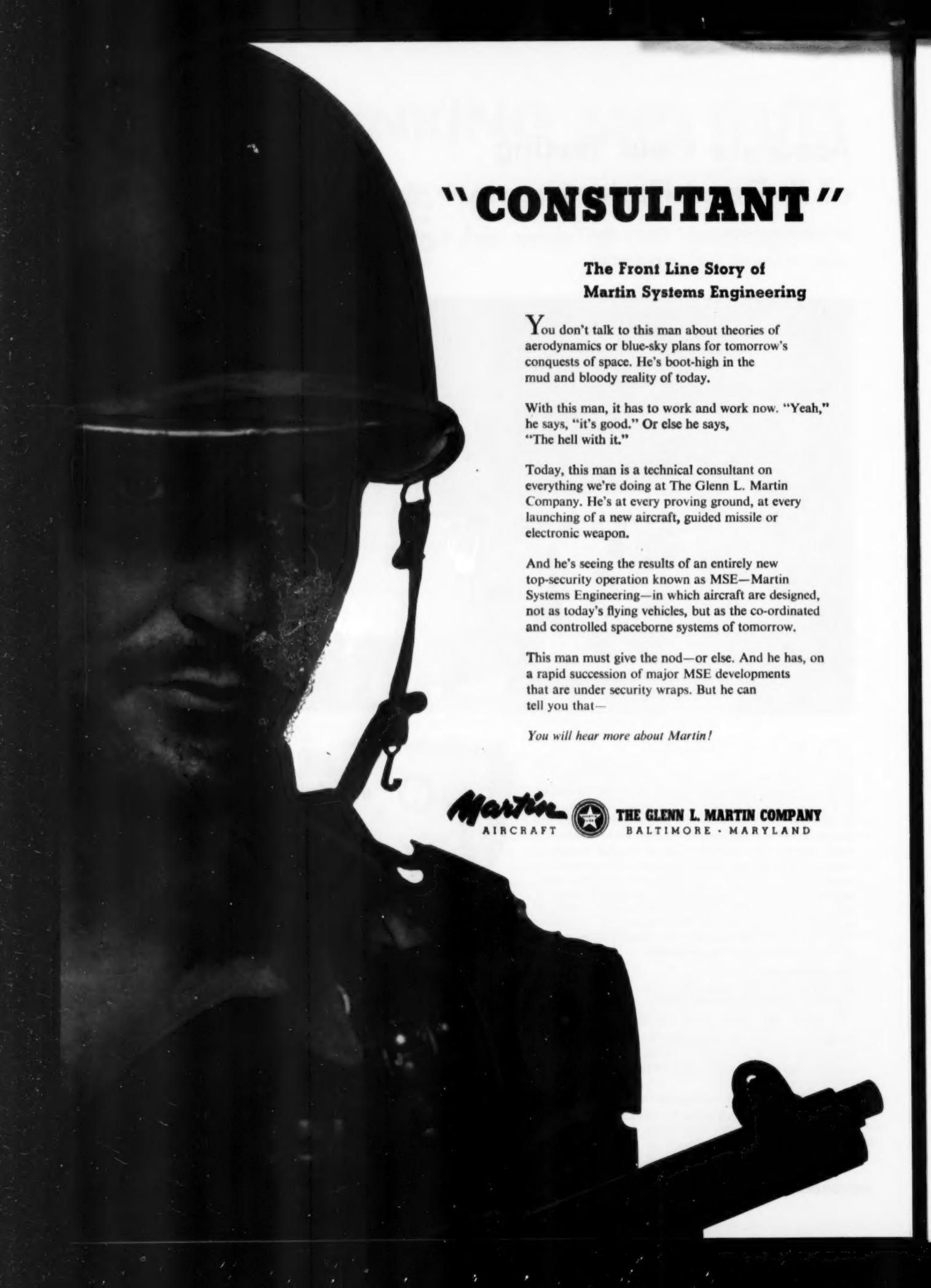

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PUBLISHER
Col. Arthur Symons, Arty-USAR

EDITOR
John B. Spore

ARTILLERY EDITOR
Col. Robert F. Cocklin, Arty-NGUS

INFANTRY EDITOR
Maj. Orville C. Shirey, Inf-USAR

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N. J. Anthony — *Esther E. Bennett*

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Helen L. McGuire

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The Month's Mail

New Efficiency Report

To the Editors:

Your article by General Bergin on the new officer efficiency report [October issue] was of great interest. However, on close study, I fail to see where any extensive improvements have been made. Sections 11 a and b are pure eyewash. Even so the report isn't bad if they will only adopt a page from the Marine Corps and provide a space for the officer being rated to sign the report indicating that he has read it and give him an opportunity to rebut rat ings he believes to be unfair. Such statements from the officer being rated might give a better insight into the officer's fitness than a whole file of opinion reports.

COL. REDLEG

Washington, D. C.

Best Years of Our Lives

To the Editors:

I have never had a desire to write a letter to an editor but since reading your August issue I must congratulate the author of the fine article, "Give Us Back Our Pride." It tells those of us who want to know just what really is wrong with the Army. Many of us Regulars are fed up with the way we have been pushed around.

I have more than eleven years of service; I am proud of the service which I hope to make a career but I doubt if I shall if things keep up as they are. I would be better off getting out and taking a civil service job than trying to make the Army a career.

I don't think that all the glory should be given us, but when little respect or interest is shown those of us who have given the best years of our lives to the service and we are deprived of those things we have enjoyed for many years, it is about time for us Regulars to holler real loudly. This seems to be a married men's army and I think we ought to appreciate the hardships that fall on married service families.

Still the service can't be beat.

SGT. GERALD A. SMITH
7729 Special Service Group
APO 696-A, c/o PM
New York, New York

No Discipline

To the Editors:

Of late there has been considerable discussion on the subject of why so few young men want a Regular commission. But I seldom see mentioned a factor which I believe serves to keep many men from going RA—the discipline the service demands.

A great number of Americans reaching maturity are strangers to discipline. During childhood and the teens they were seldom subjected to it. This is due largely to the thinking of many "modern" educators and "experts" on child care, who hold that discipline is an evil to be avoided.

Whether these educators are right or wrong is a very broad question. But there is no denying the fact that this theory, in varying degrees, is widely held, and has influenced the upbringing of many Americans in recent decades.

Small wonder that young men brought up in such a manner find the Service unattractive!

LIEUT. F. L. YOUNG, JR.
Hq & Hq Co, 5th Cav Regt
APO 201, c/o PM
San Francisco, Calif.

Commissaries

To the Editors:

I have just read "On Commissaries and Productivity" [September issue]. As a member of one of the civilian components, some of the current problems of Regulars do not come to my attention. I was familiar with the curtailment of post exchange functions, but had not known about the elimination or curtailment of commissary service. I would greatly appreciate any information which you might give me as to the status of any legislative bill affecting this service.

I heartily concur in what you have had to say. I would like to interest myself, in my small and feeble way, as an individual citizen, in stopping further curtailment of commissary and similar privileges.

I have no personal interest in this matter, as I am not privileged to purchase from post exchanges and commissaries excepting when on active duty, but this constant chipping away at service rights by small civilian pressure groups makes my blood boil.

BRIG. GEN. GEORGE W. TROUSDALE
39th Inf. Div.
La. Nat. Gd.
Monroe, La.

To the Editors:

"Commissaries and Productivity" prompts me to suggest that perhaps the Association should become a lobbying organization.

I can appreciate the impressive arguments against such a course. But if the Association, representing the best interests of our Army in a non-official sense, doesn't go about securing such advantages for the Army as it may deem advisable, who, I am forced to ask, will do it?

There is nothing intrinsically wrong with lobbying. And military organizations in this country, through their civilian "auxiliaries," long have engaged in it. Look at what to our jaundiced eyes have become the spectacular results achieved through work of the various National Guard, Marine and Navy interests.

THIS MONTH'S JOURNAL

In these pages there is a lot of varied reading for soldiers with varied interests.

If you like to tinker with the organization of combat outfits you'll dig right into **The Infantry Division: Triangular or Square?**

If you're scientific- or engineer-minded you'll whip over to **Target Attack** to take a reading on the artillery's new gun data computer.

If you are a logistics officer or a critic of the logisticians you won't pass up **An Invasion is Jeopardized.** Nor will you pass it up if you were anywhere near Omaha or Utah beaches on 6 June 1944.

The tactical minded will want to see what Lt. Edward L. Murphy, Jr., has to say about **Night Fighting.**

And every reader will "expertize" Col. E. N. Kirsten's **Promotion System in Transition.**

These are just a few of the highlights. In addition there are a couple of helpful "gadget" pieces, letters from readers who have something to sound off about, and book reviews that will give you a broadened view of the world and your profession.

NEXT MONTH'S JOURNAL

Lt. Col. Robert B. Rigg isn't advising you to be rebellious or subversive in **Blow Up Your Commander.** On the contrary he urges you to get in good with the Old Man by showing a bit of imagination in devising realistic training problems. He packs his message full of all kinds of helpful hints that will give you an irresistible impulse to outdo him.

Operation Touchdown by Lt. Col. Virgil E. Craven tells the story of an infantry-tank attack on bloody Heartbreak Ridge in Korea by the 2d Infantry Division.

In **Gridding the Single Vertical Photograph,** Lt. Col. John C. Remy shows us a fast and simple method of restituting points from a map to a photograph.

Can infantry and armor successfully team together in preplanned night attacks? In **Tanks and Infantry at Night,** Capt. Harlan G. Koch gives the results of a study of an Armored School committee that interviewed many experienced commanders.

Plus all this there will be our other regular departments: Cerebrations, Book Reviews, the Month's Comment, and the Month's Mail.

Congressmen and others in government understand the functions of lobbying, and oftentimes it seems to be the only way to carry through a program. If we in the Army are to rely on traditional means of carrying our story to the Congress and the government we are going to continue to slip behind in what has deplorably become a form of "competition" with the other branches of the service, and our nation's best interests may perhaps not be served by this slow downward slide of the Army.

The problems associated with "Commissaries and Productivity" are symptoms of a deeper evil, a misunderstanding on the part of Congress and others as to the functions and role of the Army. This we should somehow set out to correct. And if it requires lobbying, then we must do it. Certainly that is a form of our duty as much as anything else we do.

NAME WITHHELD BY REQUEST

To the Editors:

"On Commissaries and Productivity" must be commended. It is really time that someone spoke out frankly in favor of the poor serviceman who has little to say . . .

My blood ran high when I read that a World War II officer had the boldness and audacity to say that we are overpaid and are not productive. . . . What gave that ex-officer the opinion that military life is so plush? Military life is much more rigid and we are subject to numerous rules and regulations.

Actually, the serviceman isn't paid as adequately as his civilian counterpart. He works many hours overtime and is not remunerated with double time or time and a half.

Hats off to the author for such a magnificent article.

SGT. EARL P. POWELL
Provisional Co. 2827
APO 872, c/o PM
New York, N. Y.

Commissaries and PXs

To the Editors:

In regard to your truth-packed article on commissaries, Amen!

Could arrangements be made for reprints for benefit of the general public via such magazines as *Coronet*, *Reader's Digest*, and other publications? The military (and military-minded) people who read this article will know it to be the truth; let's place the facts before the "bar of public opinion" and attempt to "kill off" those who would attempt to pass harmful legislation against enlisted men and women, and officers.

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I'll be looking for "On Commissaries and Productivity" in one or more civilian publications.

CPL. DONALD F. MACLEAN
6103 ASU, Det #3
Br. U.S.D.B.
Lompoc, Calif.

• We wish the big magazines would take an interest, but unfortunately they don't.

Chamber of Commerce Support

To the Editors:

I read the very pertinent editorial "On Commissaries and Productivity" and I feel compelled to comment on this latest maneuver against the services.

I live with my family on the Fort Ord reservation, and use the commissary there. It is currently being investigated for the House subcommittee. I am enclosing a headline from the front page of our local paper—the *Monterey Peninsula Herald* (*see cut*). It is all quite self-explanatory and should prove of considerable interest.

Several front page editorials in this paper indicate a rather unique attitude on the part of the local people—and quite refreshing, don't you think? Unfortunately, however, as we all know too well, the outlook of some of our legislators is somewhat different. But then, as you say, "soldiering and politics don't mix," and so perhaps I had better stop here before saying something regrettable.

CAPT. R. B. ELLIOTT
Box 124
Presidio of Monterey, Calif.

To the Editors:

We old reservists and retired personnel, who have seen service in sundry wars and studied during the interim, are viewing with apprehension the present attitude towards the purchase of rations at commissaries and saddle soap at the PX. It is astounding but apparently true. The one ray of light is that people stationed in fairly remote posts or bases may still be able to purchase daily necessities.

There is a large commissary at Fairchild AFB, twenty-two miles west of this city; but there are thousands of people stationed there with married quarters, as well as men on duty who live in town. I go out there two or three times a year to get some good cured meats, cheese and issue groceries. When the AAF was served by the QMC in commissaries the store was open from eight until noon for authorized purchasers. Most of the civilian opposition is directed, or has been, towards the post exchange system, for self-centered reasons, and this has been agitated for years.

There is a meeting tonight of the Disabled Emergency Officers of the World Wars; we are not strong, but I will take it up with them and urge those present to write their congressmen to urge the continuance of the commissary and the post-exchange systems.

Yes, as Rudyard Kipling wrote about "Tommy Atkins"—"Chuck 'im out, the brute! until the guns begin to shoot"—And then he's called a "thin red line of heroes".—

CAPT. ALBERT H. SUNDAHL
Retired
W. 2515 Boone Ave.
Spokane, Wash.

Fly 'em in in Pieces

To the Editors:

We have been hearing a lot of talk in the past few years about air transportability for all ground combat units. Airborne enthusiasts have been whooping it up for truly strategic airheads of field army size, completely supplied by air. But despite all the enthusiasm, and despite the tremendous developments in heavy drop techniques, there remains one large question. How can we get a medium tank into the air, let alone into the airhead?

If you consider the size of the plane needed to lift a 2½-ton truck, you can imagine the giant that would be required to lift the medium tank. Supposing for a moment that such a plane could be built, the cost of lifting a battalion of medium tanks into the airhead would be all but ridiculous.

The idea of developing a special light (under-gunned and under-armored) tank for airborne use is really no solution at all. The need remains for a medium tank in the airhead.

Why can't American ingenuity design a medium tank that could be broken down into three or four loads, which could be quickly and easily reassembled in the field? The loads might consist, for example, of the turret assembly (including the gun),

Peninsula C of C Supports Fort Ord Commissary
Monterey Peninsula Herald
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the engine, possibly some of the armor, and the remaining hull and suspension system. These loads could be carried in present type assault transports, or possibly could be landed by the use of the heavy-drop technique.

Considering the inherent payload limitations of the helicopter, such a breakdown of the tank seems to offer the only hope for the future tactical use of helicopters in operations involving units larger than the battalion.

ROBERT W. O'BRIEN
75 Fayerweather St.
Cambridge 38, Mass.

Ask the Old-Timers

To the Editors:

My attention was particularly drawn to your reprint of General Bradley's memo to the Secretary of Defense [June issue] because I am one of those long-timers with almost twenty years of service who are leaving.

I believe that the board appointed to find out the cause of why all these men are leaving will not learn much unless and until they get down to the men themselves. I suggest that all those with long terms of service be called to Washington as they leave and asked to state their reasons. The Pentagon is not so busy that someone could not give these men ten minutes of time to hear some of the stories.

Perhaps this could be done by the Chief of Staff or someone on a level near the top.

Or as an alternative the records could be sifted through and all those with say more than ten or fifteen years service could be circularized and asked why they are leaving the service, if they are.

My suggestions may sound too simple to some but it certainly would not cost much to say.

WOJG

Solution?

To the Editors:

Major Crecelius makes a splendid presentation in his article, "Combat Company Commanders Should Be Majors" [July issue]. However, how about getting started on this one step at a time? Let's take some of the companies away from the lieutenants who are now commanding ninety per cent of the companies in Korea and give them to the captains who are sitting in staff jobs or in rear areas just dying to take over a combat company.

CAPTAIN X CORPS
APO 909, c/o PM
San Francisco, Calif.

Coast Watchers Memorial

To the Editors:

I am writing to bring before your notice the fact that an appeal has been launched by a Coast Watchers Memorial Committee to obtain funds for the erection on a site to be selected in New Guinea of a memorial to those Coast Watchers operating in the South Pacific and South West Pacific Areas who lost their lives in the Second World War.

The volume of intelligence transmitted by the Coast Watchers concerning the movements of enemy war vessels and aircraft from jungle hide-outs, was a most substantial one. Not only did they transmit information which led to the sinking of enemy war vessels, but they were able to give timely warning of impending air attacks, particularly during the critical stages

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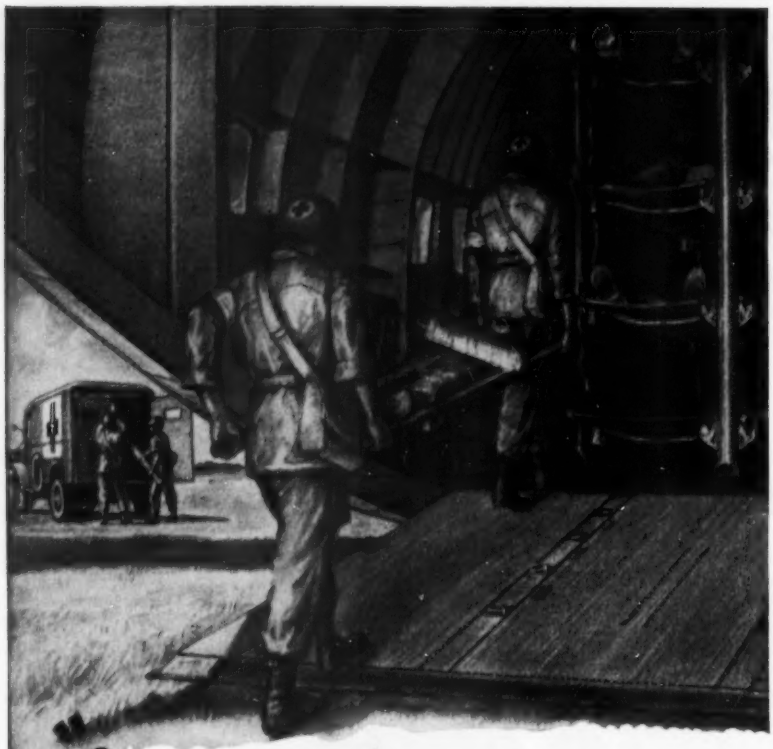

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Combat infantrymen, quickly recognizing its unique value, dubbed it "Operation Lifesaver."

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of the Pacific campaign and notably at Guadalcanal. Also they were successful in retrieving, and later bringing back to safety, many Allied airmen who had been shot down over enemy-occupied territory.

As the enemy forces extended their grip over the various islands they occupied, the work of the Coast Watchers became even more hazardous. Enemy patrols were constantly on their trail and in the transport of their equipment they were largely dependent upon the small parties of natives who remained loyal to them. It was lonely work, demanding the exercise of much courage and physical endurance.

Donations may be sent to the Honorary Treasurer, Coast Watchers Memorial Committee, c/o Naval Intelligence Division, Navy Office, Melbourne, Victoria, Australia.

I might add that most substantial donations to the Coast Watchers Memorial Fund have been received from Fleet Admiral William F. Halsey and from the First Marine Division Association, Inc.

In all probability the Memorial will take the form of a navigational light mounted on a structure of a suitably commemorative character and which would be known as "The Coast Watchers Light."

W. H. Brooksbank
Honorary Secretary
Melbourne.

Commo

To the Editors:

I just finished reading Lt. Col. William R. Kintner's "Commo to the Signal Corps" [September issue]. As a company grade Signal Corps officer I have been extremely interested in this problem, and have had some slight experience in Korea with front-line units. Colonel Kintner's report is the best analysis of the problem that I have seen, and I would very much like to know his address to contact him further on this subject.

Lt. Louis F. Dixon
Apt. 3A, Bldg 2058
Fort Monmouth, N. J.

9th Infantry Division Association

To the Editors:

I read your article by General Edwin H. Randle, "And They Marched Every One" [September issue]. Fortunately I was one of the foot soldiers of his 47th Regiment and it brings back happy memories of Africa, Fort Bragg, and our European tour of duty in World War II. I am now a member of the 9th Infantry Division Association. Our headquarters is Box 428, Jersey City, N. J.

I would like to have your permission by return mail for reprinting this article in our monthly paper the *Octofoil* as it would reach the homes and hospitals where our members reside.

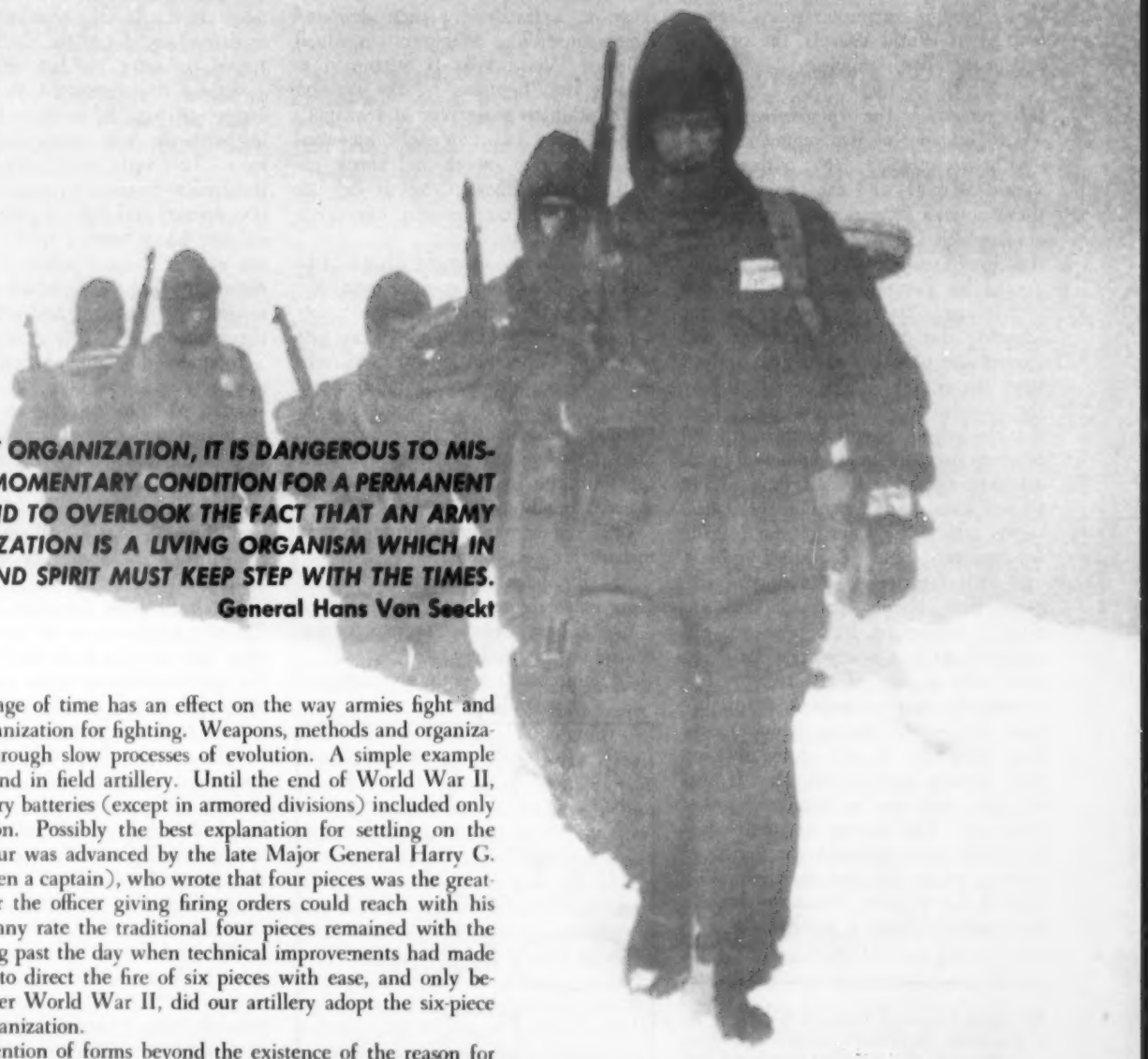
Wilton M. Taylor
Stop 6, Star Route
Lost Hills, Calif.

● Permission granted with pleasure.

The Infantry Division

▲ OR ■

BRIGADIER GENERAL GEORGE E. LYNCH



IN ARMY ORGANIZATION, IT IS DANGEROUS TO MISTAKE A MOMENTARY CONDITION FOR A PERMANENT ONE, AND TO OVERLOOK THE FACT THAT AN ARMY ORGANIZATION IS A LIVING ORGANISM WHICH IN FORM AND SPIRIT MUST KEEP STEP WITH THE TIMES.
General Hans Von Seeckt

THE passage of time has an effect on the way armies fight and their organization for fighting. Weapons, methods and organizations go through slow processes of evolution. A simple example can be found in field artillery. Until the end of World War II, field artillery batteries (except in armored divisions) included only four cannon. Possibly the best explanation for settling on the number four was advanced by the late Major General Harry G. Bishop (then a captain), who wrote that four pieces was the greatest number the officer giving firing orders could reach with his voice. At any rate the traditional four pieces remained with the battery long past the day when technical improvements had made it possible to direct the fire of six pieces with ease, and only belatedly, after World War II, did our artillery adopt the six-piece battery organization.

The retention of forms beyond the existence of the reason for their origin can be found almost anywhere. I hope this justifies an examination of the form of our infantry division and some conclu-

sions as to its suitability and function today and tomorrow. Whatever answer may be found, it is certain that it will only fit the circumstances for a matter of a few years when time and good judgment will demand that it be looked at again.

The last time that the principles of infantry divisional organization were given a complete overhaul was in the summer of 1946 at the Infantry Conference at Fort Benning. Many valuable changes were adopted. These changes reflected experience gained in fighting the armies of Germany in an almost entirely offensive war against a weakening foe which had lost the ability to mass forces or resources against the land and air forces of a powerful coalition of allies.

Since our current divisional organization represents in most respects lessons learned in World War II, the need is urgent for a further review.

WE remember the square division of two brigades of two regiments each which prevailed at the outbreak of World War II, and the conversion of these square formations to triangular ones, which followed extensive tests of the "Provisional Infantry Division" conducted by Lieutenant General Lesley J. McNair. Basically the reasons for adopting the triangular formation had existed and had been clearly recognized since the end of World War I. Briefly the two functional reasons were, first, that the brigade organization, interposed between divisional and regimental headquarters, caused a loss of time in the transmission and execution of battle orders which the value of the brigade headquarters could not justify; and second, that formations consisting of two parts were simply not adaptable to modern combat. A division reserve was essential, such a reserve could be created only in one of two ways. The commander could constitute a full brigade as division reserve which meant that the power of half of the division was initially unexploited—this it was thought could not be accepted in most situations. The second alternative was to detach one regiment for divisional reserve, which left one regiment available to the brigade. Since the brigade must usually have a reserve, its commander necessarily held one battalion as brigade reserve leaving the regimental commander only two battalions, and this commander found himself in even poorer shape to enter the action than his brigade commander. The fault, of course, lay in the failure of the organization to fit the function attached to it, which was readily recognized and partially corrected in our divisions which fought in World War II.

THE most frequently heard criticism of our World War II division was that it was too light. It did prove flexible, but for sustained operations it did not possess self-restorative powers, and this, in company with our World War II policy of requiring continuous active operations of divisions without rest or relief, combined to wear the divisions down to a fraction of their designed effectiveness. The reorganization which followed World War II attempted to remedy the "lightness" of the division by the addition of weapons and weapons units. This unquestionably increased the momentary power and shock potential of the division, but it did not add to its sustaining powers, endurance or flexibility.

We should also examine what will be expected of our division in the event of a war against the USSR.

Soviet tactics and methods as presented by General Augustin Guillaume of the French Army, Colonel Louis B. Ely, of our own Army, and by the German generals who have expressed their reflections and experiences in fighting with the Red Army, can be summarized briefly as follows:

(1) A slow and heavy build-up prior to launching an offensive.

(2) Emphasis on depth in both offense and defense.

(3) A heavy reliance on massive concentrations of artillery.

(4) Successive assaults by successive organizations until the enemy battle area is completely penetrated, with subsequent envelopment and destruction of the broken enemy.

(5) Relatively low ability to continue heavy assaults when the action has progressed beyond Soviet logistic and artillery capabilities.

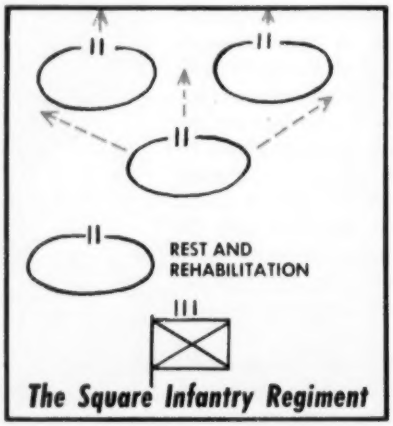
There are other characteristics, but these seem to form the framework of Soviet tactics. While Communist Chinese tactics in Korea cannot be accepted as a guide to Soviet capabilities, they have seemed to follow this pattern so far as their equipment and weapons allowed.

TO be prepared to meet Soviet tactics and to exploit our own potentialities, we must decide what each infantry echelon is to do and what tools each needs to do its job, whether attacking or defending. Since the division is our largest infantry combat organization, and since it is composed of several infantry echelons, let us examine it, starting with the basic small unit, the platoon. This unit, now triangular with three rifle squads, can organize a position defense and hold its own in such a defense for a limited time. It should not care if enemy passes it by—it remains an anchor on which other elements can maneuver and later re-form the front.

In attack, this same platoon can adopt a variety of formations, generally triangular in form, capable of maneuvering on another base of fire, or of acting as a base of fire, or of maneuvering one or two of its squads while the remainder of the platoon furnishes the base of fire. The platoon is well designed for its function in attack or defense—no change of structure is suggested.

Much the same thing can be said for the rifle company as for the rifle platoon. Its job and its capabilities are of the same functional order, therefore no structural change is suggested.

The infantry battalion job is of a broader nature than that of the rifle company, though not so inclusive as those of the regiment and division which we shall look at a little later. The battalion should possess the endurance and ability to maintain the offensive for possibly thirty-six to forty-eight hours. However, because of its triangular formation and the fact that men tire and use up their physical and spiritual resources when pressing an attack with all possible vigor, it can not *effectively* conduct offensive operations for longer periods. In Europe, battalions were required to continue to attack for longer



The Square Infantry Regiment

BRIGADIER GENERAL GEORGE E. LYNCH, an occasional contributor to this magazine, is presently the Assistant Division Commander of the 43d Infantry Division, stationed in Germany.

periods without rest or time for recuperation, but effectiveness dropped off appreciably after about forty-eight hours.

In defense, the infantry battalion deploying in much the same fashion as described above for the platoon, containing its few administrative units within its position, can maintain the integrity of its position and protect its vulnerable non-fighting activities against heavy attack for periods up to forty-eight hours or so without resupply, and for varying greater periods under less severe operations. At the same time, an area or positional defense of this nature stoutly maintained will allow other divisional forces to deal with enemy elements which by-pass the battalion position during a powerful attack. If the attack is a probing or weak effort, the battalion can and should use its third rifle company or a portion of it to maneuver and to counterattack. But, if the enemy effort appears to be great, the battalion should anchor itself and allow regiment or division to eject the penetration or infiltration which may have flowed around it to the rear.

For these general cases of the battalion action, its present triangular form is satisfactory.

THE battalion could be made a unit of sustained offensive power and of deep defensive ability if it became an administrative echelon and if it received a fourth rifle company. However, that is not here suggested as a profitable change in view of the relation of the battalion to other organizations in the division, so its possibilities will be left without further development.

Considering the regiment, we find a different set of purposes to be satisfied. From our experience in World War II and in anticipation of the kind of action to be expected in combat against enemy forces, it seems certain that the regiment must:

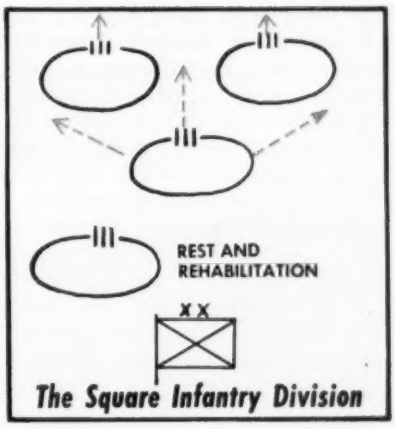
(1) Form a regimental combat zone of great depth, probably in the order of 4000 yards.

(2) Be capable of including and protecting within its battle area its administrative and combat support elements.

(3) Be capable of counterattacking and restoring the position if penetrated.

(4) Be capable of seeking out and destroying enemy penetrations of the divisional battle area in its own vicinity though not within its position.

(5) Possess self-restorative powers (ability to rest, re-equip, resupply, and reorganize units of the regiment out of contact with the enemy but within the regimental battle position).



The Square Infantry Division

(6) Be capable of a sustained offensive drive at maximum effectiveness for periods up to about ten days.

THE present triangular regiment does few of these things well. In defense, it must generally use two battalions in contact and one as a reserve and maneuver element, rotate battalions in such a way that none can be rested or restored to high effectiveness. The third battalion, if used for counteroffensive or maneuver, leaves the battle position shallow and easily infiltrated or penetrated. Administrative and combat support elements cannot be securely included in the area when the third battalion moves into a counterattack, or even when it merely assumes a rear positional defense. This has generally resulted in the practice of placing support elements a sufficient distance to the rear so that slight penetrations did not disrupt support operations. The history of operations in Korea has demonstrated the weakness and inadequacy of this arrangement.

Another situation which will likely occur in the defensive is that the power of an enemy attack may promise to be so great that a planned withdrawal to a second prepared battle position, so as to dissipate and disorganize the attack, would be the most profitable course to follow. In this case, the triangular regiment is handicapped in that if it mans its first battle position with only one battalion, using the other two to prepare the second position and withdraw to it when ordered, the weakness of the front may be perceived and the enemy's main blow will be reserved for the expected second position. In such an event we lose the defensive advantage of inviting a main effort for the purpose of dissipating it and having it founder and be destroyed on a second battle position and then counterattacking to restore original positions.

In an attack, one triangular regiment, good for the initial assault up to about seven days, soon exhausts itself and must continue at reduced effectiveness or be passed through by another regiment of the division or by another division. Since the division has but three regiments, in two to three weeks it may exhaust its vitality and have to be relieved or to continue at remarkably reduced effectiveness. The second method, of relief by a fresh division, is clumsy, time-consuming and riddled with difficulties of intelligence and logistics and other administrative obstacles.

THE basic reason for the weaknesses in the regiment is its triangularity. It is flexible, but lacks self-restorative powers, cannot protect its supports, has only shallow defensive capabilities and cannot sustain the offensive effectively for long.

If the regiment were increased by one battalion, depth of battle position could be created when on the defensive, counterattack potential would be more flexible, administrative echelons would become more secure, and defense in first or second battle positions would be equally adaptable. In an attack the regiment could always fight two battalions, while the remaining two served as maneuver and reserve elements, at the same time restoring themselves. Difficult divisional reliefs would be made unnecessary except for infrequent periodic restoration periods. Since the usual action would find only two battalions with enemy contact, the combat support elements should require no increase, and the administrative support elements would require only strengthening rather than the addition of new administrative units. This, incidentally, should greatly reduce the proportions of non-fighting to fighting personnel, a current condition which has been so roundly criticized by many military commentators.

How many World War II division commanders have said or thought that they could and should have had four infantry regiments in their divisions? In fact, by attachments of regiments, many divisions did operate four regiments without appreciably adding to the tasks of staff, command and support elements.

MUCH the same reasoning advanced in the case of the regiment applies to the division, whose structure should be changed from triangular to square —and a true square, not the incorrectly labelled square of our old brigaded divisions which in fact were dual and not square. With two regiments on the

front, each in depth, the division has reserves, maneuver capabilities, security in depth, and an offensive staying power which should enable it to remain in action almost indefinitely. It could, by relief of individuals, rest those who needed rest; it could by rotation of units within itself continue those regenerative processes without which any organism eventually wears out, and above all, properly resupplied it could hold a position or conduct an attack for months.

The supply of the regiment or division which has chosen to hold its position even though the enemy has penetrated or infiltrated around it to the rear is a large subject of its own. It is inherent in the concept of this type of defense that, before supplies on the position have been expended, the unit must resupply, or withdraw or surrender. The experiences of Major General Orde C. Wingate, the British Special Force commander in Burma during World War II, are significant. His divisional force, completely supplied by air for periods as long as three months, while operating two to three hundred miles in rear of the Japanese front, furnishes good evidence of the feasibility of supplying regiments and divisions whose communications have been cut. Even more recently, the aerial supply of the 1st Marine Division and elements of the 7th Infantry Division in North Korea points to the tactical possibilities of a firm defense of a threatened front area.

IF our divisions in Korea had had the four-regiment organization, and if aerial resupply had been used, there is a very good probability that Chinese and North Korean infiltrations and penetrations would have been destroyed or would have themselves withered away after having consumed their man-packed expendables, without having forced a dislodgment and withdrawal of our forward combat and administrative forces. It should be quite clear that the use of atomic weapons against land combat forces will require changes in organization, deployment and tactical concepts. Among the implications is this—certainly atomic weapons offer the attacker the means to create a local vacuum in the enemy's front or to destroy the enemy's immediate reserves. The attacker will pour in forces to fill and to exploit the vacuum. Having the initiative, the attacker is assured of a handsome advantage of time if his opponent has placed his reserves at conventional distances behind the line of contact. The defender must therefore dispose his local reserves sufficiently close to the front that they may be rapidly moved to block or destroy the attacker's exploitation before it has gained momentum. Addition of a fourth regiment to the infantry division, followed by wise deployment of forces is one effective counter to the advantages of atomic weapons in the hands of an attacking land force.

It might be countered that squaring of the division and of the regiment induces duplications and possibly excesses. The situations of battle, being so various, would have to be explored one by one to establish that no duplication or excess would result. Even then it could not be said that there would be no duplication, for duplication is always present until the last reserve is committed.

The recuperative processes which this simultaneous squaring is intended to serve are not quite the same in the regiment and in the division. The variable of durability and the periodic need for regeneration are satisfied in infantry units by reliefs of different sorts. Frequent short pauses which can be provided in a square regiment must, if the division is to engage in sustained combat, be supplemented by occasional longer periods for more extensive recuperation. This can be provided in a square division.

THE preceding discussion emphasizes the restorative possibilities of the four-regiment division. It must be kept in mind that, though necessary from that point of view, these benefits are not a sole objective, but rather an important one, inevitably connected to the strengthening of the division, with the increase of flexibility, deepening of the battle position and creation of sustained offensive power sought for in this proposal.

The impact of an increase in infantry battalions and regiments will require a detailed technical study of the mass of administrative and technical units and installations necessary to the operation of a theater. This abbreviated examination cannot even commence such an evaluation. However, several governing principles appear immediately. Combat support units need to be increased only where they normally function as combat team elements. This would require the addition of a light artillery battalion and an engineer company in the division. Both additions can be made without increase of headquarters overhead. Service support units which contribute directly to the maintenance of the added units, in such ways as supplying food, fuel and other expendables, might require an increase in proportion to the increase of the combat elements. However, the many units which support *organizations* rather than the *personnel* of the organizations should require no increase, since their functions are dependent on the numbers of organizations to be served rather than the strengths of the organizations; this would include many army and corps units such as signal and military police battalions to name only two in echelons above the division.

The overall effect would be to increase greatly the proportion of combat troops to service troops in the theater and would thus reduce the swollen "division slice."

SINCE this article charges the three-regiment divisions with certain inadequacies, and since the four-regiment division is proposed as the more effective form, it might well be asked, "why not a five-regiment division and a five-battalion regiment?" Briefly, the basic reasons seem to be: (1) In both division and regiment, where communications are subject to interruption and personal contact between commanders is frequently difficult to achieve and at best is time-consuming, five units are too many for the commander to operate and supervise effectively; and (2) the divisional front would be so wide that the division would lose one of its most powerful capabilities, that of massing the bulk of its artillery at any point on its front.

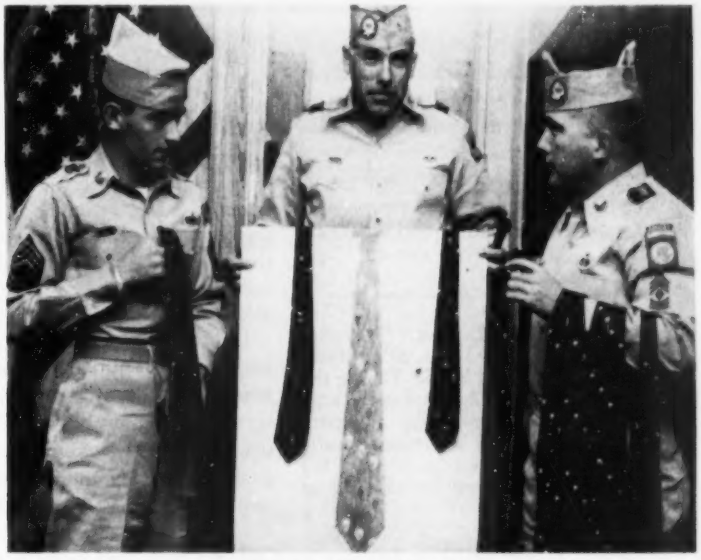
The terms rest, recuperation and regeneration have been used so frequently in this examination, that the reader could reason it as an effort to secure for the infantry a more leisurely, comfortable life. But my purpose is to make it possible for infantry to fight better, longer and more effectively. My reasoning in many ways parallels that of the U.S. Air Force wherein we find that war allowances provide double the number of pilots required for the number of aircraft in the unit in peacetime. The purpose is to exact from the machine the maximum it can give, to use operating personnel most effectively and to get full use out of overhead personnel and organizations.

This country is gearing itself to a war against aggression, and designing weapons, machines, aircraft and naval craft that will excel the potential enemy. But we should also look to our infantry organization, which will carry such a large share of the action, and give it those powers which will let it complete its grim part successfully.

PICTURES OF THE MONTH

WEAPON OF THE MONTH. The 280mm "atomic" gun, here being loaded on a landing craft during tests, is going to Europe to bolster NATO's defenses. The 868th FA Battalion will be the first of several 280 outfits to join the Seventh Army.

SOLDIER OF THE MONTH. Maj. Gen. William F. Dean, Medal of Honor, repatriated after three years in a Communist prison camp.



GADGET OF THE MONTH. The 508th "Red Devil" Airborne Combat Team adopts a regimental tie to be worn informally. The tie of dark blue silk has alternating diagonal rows of white parachutes and red devil heads. All present and past members of the 508th can wear the ties. They may be obtained from the commander of the 508th, Col. George O. Pearson, Fort Benning, Ga.

VEHICLE OF THE MONTH. Piasecki's twin-engine YH-16 transport helicopter is going through tests before final acceptance. The big "Transporter" will carry 40 men or three jeeps. Bulky loads, such as guns, can be carried in slings under the fuselage.

Self-Propelled Artillery in Positional Warfare

LIEUTENANT COLONEL JERRY F. DUNN

How a 155mm SP outfit adjusted itself to the stalemate that made the last months of the Korean conflict an artilleryman's war

AT the outset of the third winter in Korea, ground action had developed largely into a stalemate and an artilleryman's war. Thus, a battalion of heavy artillery had to refine its techniques so as to increase the range and accuracy of fire, improve its mobility, and regain its offensive spirit.

LIEUTENANT COLONEL JERRY F. DUNN, Artillery, commanded the 937th Field Artillery Battalion in Korea. During the Second World War he served in the artillery section of Third Army and commanded the 174th FA Battalion, also a 155 SP outfit. He graduated from the Command and General Staff College in 1952.

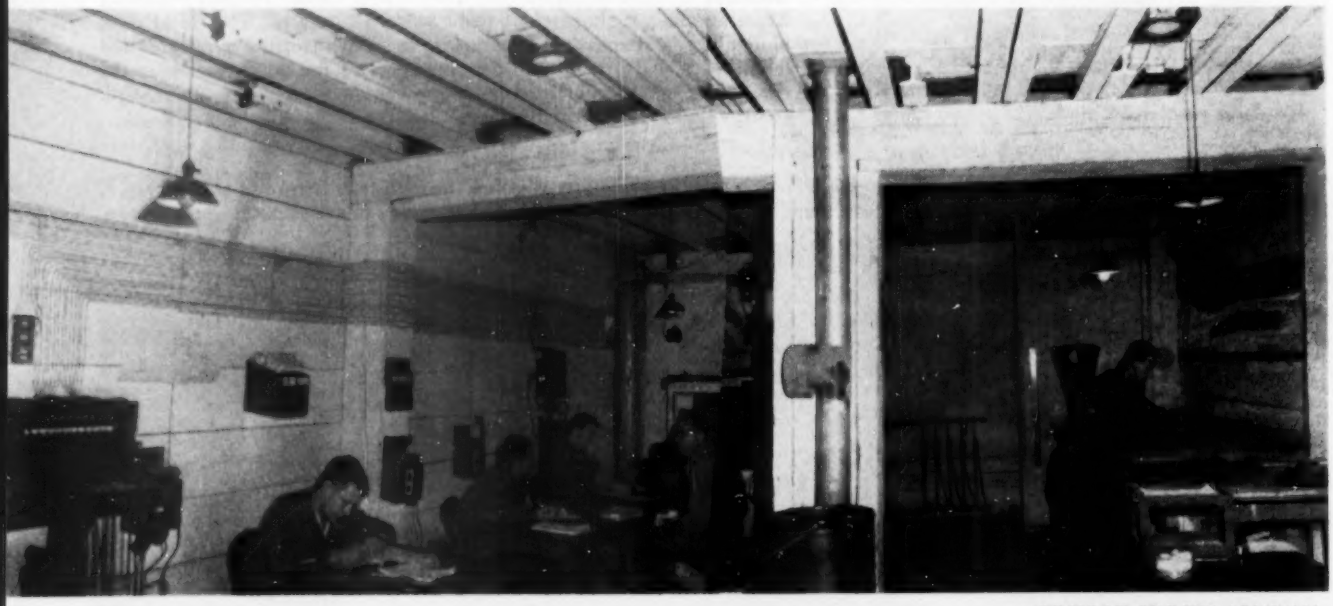
Our battalion—the 937th FA, armed with 155 SP guns—worked out two methods that helped a lot.

First, rapid occupation of battery positions located well forward and quick delivery of a large volume of fire on deep targets followed by early withdrawal became commonplace. Second, use of the self-propelled gun on assault missions also became common practice.

Deliberate construction, occupation and organization of positions took us two months during which each battery occupied positions close by. The battalion was closely grouped to minimize problems of communication and control, and to let us mass our fires fast. Other than an occasional short-term loan of heavy equipment by the engineers, all the construction work was performed by the battalion.

In selecting battery positions, particular attention was given to enemy observation, existence of a major river obstacle dividing the area, and the desirability of placing the batteries of the battalion well forward to gain maximum range advantage, the latter being in opposition to the doctrine of defense in depth. After reaching a decision based on these factors, clearance was obtained from the infantry regiment having area responsibility. Then planning and construction commenced.

The bunker of the battalion fire direction center. Rails and timbers support a roof covered by four to eight feet of earth



Self-propelled gun position with a field of fire of 2700 mils

SINCE it takes only a short time to learn to respect the gunnery of the Chinese, our planning concentrated on finding ways to construct firing battery positions that would withstand heavy counterbattery fires and still be able to deliver fire without interruption. Our construction standards followed these general requirements:

(1) Each gun pit was to permit approximately 2700 mils traverse, so we could fire on the MLR, left or right, at maximum ranges; the actual traverse required depended on the distance from the battery to the MLR (varying from 5000 to 8000 meters). Since the 155 gun, self-propelled, M40, has a 638-mil on-carriage traverse, this wide-front deflection coverage was accomplished by selecting five principal azimuths of fire for each gun pit.

(2) Gun pits were revetted with sandbags and earth fill to a height of eleven feet. Being 40 feet wide and 50 feet long, each revetment required more than 5000 sandbags.

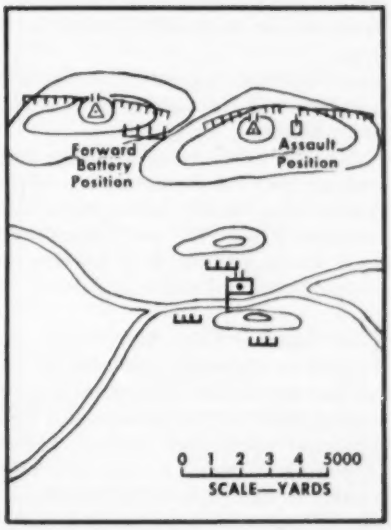
(3) Extremely rugged terrain magnified the minimum elevation problem ever present with "Long Toms." Minimum elevation cards were developed for each gun and composite fire-capability overlays for each battery were prepared.

(4) Each gun pit was designed to permit ready entrance and exit over an inclined ramp. One battery position was designed with ramps in the front end of the pit while two batteries placed ramps in the rear. The latter proved more satisfactory since ammunition trucks can enter the pits without interrupting the gun crew when firing, and there is more protection for gun and cannoneers.

(5) Projectile pits, powder pits, covered revetments for tools, fuzes and spare parts were built into the side of the revetments and placed conveniently for any azimuth of fire. These pits were built with overhead cover, stand-up height, and capable of withstanding direct hits by medium artillery (this capability has been amply proven).

(6) All telephone lines necessary to control fire of the guns were installed overhead at first but later we dug them 18 inches underground.

(7) Gun positions were separated from the administrative element of each battery, depending on availability of cover, circulation and control considerations. While living quarters (tents or bunkers) were located in the administrative area of each battery, each gun squad constructed a heavy bunker close by that



Projectile pit with projectiles and fuzes segregated

Another view of the FDC bunker showing B and C computers and radio operator

gave it cover during enemy counterbattery fires and for protection from the cold weather.

(8) The FDC provided living and working space for the battery executive, chief of firing battery, radio operator and computer. Each FDC was centrally located in the position area for reasons of security, control and accessibility.

THE battalion FDC bunker was designed to withstand direct hits by all but heaviest calibers. The entire bunker was dug into the reverse slope of a hillside and roofed with 12-inch beams supporting a layer of railroad rails supporting, in turn, a layer of 4-inch timbers. This bunker was covered by earth fill four to eight feet in depth. The overall dimension was 17 x 57 feet, and the bunker accommodated an FDC room, operations room and S2 room. The walls were 4-inch timber and the floor cement. An 18-inch horizontal aperture, facing south, provided illumination and solar heat. Illumination was improved by whitewashing wall surfaces and ceiling.

STATIC warfare usually requires far more communication than other types of situations. Since artillery must have continuous communications regardless of enemy action, multiple lines were laid over different routes to each battery and outpost. We got flexibility by a liberal number of lateral lines to adjacent units, both from the battalion board and from each battery. The battalion board used three BD72 switchboards in parallel and the battalion FDC was equipped with one BD72. Each battery required one BD72 switchboard, occasionally supplemented by the six additional drops of a BD71. Battalion FDC, in addition to two direct lines to each battery FDC, had a cable of ten spare lines that terminated at handy locations. These spares were a great time saver in the rapid displacement of a battery, for quick wire communications with a unit moving into the area, and for other emergencies. All lines essential to the conduct of fire were buried underground in the immediate CP area.

Radio communications were used constantly. In fact, telephone silence was imposed one day each week and all traffic was handled by radio. Each battery FDC operated an SCR 608 with one receiver on the battalion fire direction net and the other on the battalion command net. Battalion FDC has two 608 sets each rigged with a fourpoint counterpoise antenna atop a mast 58 feet high. This station maintained one receiver in the battalion fire direction net and one in the Corps artillery fire direction net. In case both failed a remote control unit equipped with loud-speaker was installed in the FDC for ready use with a radio vehicle located outside the bunker.

An adequate supply of 12-volt power for dismounted radios located in bunkers is a problem. The best solution we found was a bank of six 12-volt vehicle batteries wired in parallel circuit. This battery bank was charged by one of these methods: A 120-volt generator; a 12-volt generator powered by a skid-mounted jeep motor; power generated by a PE210; or a Rectifier, RA83-A. Occasionally, all four sources became inoperative and a truck had to be immobilized to maintain the battery bank.

Other radio communication with higher headquarters was maintained by a voice ANG/RC9 net and a CW ANG/-RC9 net. Soft music of the latest ballads was provided by the AAAIS warning net received over an SCR 593.

Missions peculiar to the self-propelled guns of this battalion, such as assault-fire missions and roving gun shoots, introduced a requirement for a special battalion radio net having long-range capabilities. This net used an ANG/RC9 in the battalion commander's vehicle and another in the battalion executive's vehicle. The base set of this net was a third ANG/RC9 located at the battalion FDC. This net was a "must" for units operating on a wide front.

MAINTAINING combat efficiency while rotating high-point personnel, receiving green replacements and retreading noncoms of other arms and specialties under combat conditions, became a fascinating process. At one time our most competent chief of firing battery had been a mess steward with ten years of service as a cook. Training had to receive our constant attention. The battalion had a complete turnover of manpower at least every twelve months.

One of the biggest problems was keeping our mobility. Units quickly become static unless training stresses loading plans, reduction in the quantity of non-essential equipment, and mobility of individual gear. To maintain mobility, each battery moved at least two times each month on some type of RSOP. These movements were usually incorporated into the H&I program in which the battery that moved occupied a position well forward, delivered deep fires, then moved to another position before the enemy could come in with effective counterbattery. Non-shooting RSOPs to the rear also helped us maintain mobility.

We watched the proficiency of our gunners carefully. This usually took the form of AFF battery tests, frequent massing of the battalion's fire without warning and close surveillance by battalion commander and S3 of destruction missions, to mention a few.

A FEW words about assault fire are in order. This battalion performed a number of assault-fire missions in varied situations and gained experience to supplement the little doctrine that we can

find in our current training publications.

Once the mission was assigned, it was translated into definite courses of action; *i.e.*, attack and destroy (or neutralize) certain specific targets, at a given time and in a stated priority. Next, reconnaissance was made and positions were selected as far forward as possible, usually on the MLR or OPLR. Several positions were selected so that if driven from one, the assault gun could proceed to successive alternate positions. Coordination with infantry and other arms covered arrangements for mutual fire support to include, when possible, mortar suppression fires. It was highly desirable to have a tank nearby to take under fire any enemy SP guns that tried to get into the act. The position was occupied in darkness, if possible, after thorough reconnaissance by the battery commander, chief of section and gun driver. Fire was conducted by an observer adjacent to the gun. This permitted an axial set-up having an r/R factor of one, and reduced problems of control and communications. A reference point, located in the center of the zone of fire, was selected, on which the gun was laid and the observer's instrument was zeroed. At this laying, aiming stakes equipped with a mil board were set out at any convenient deflection. Thereafter, initial data were computed by observer instrument readings which were converted to deflections by a computer located with the observer. Subsequent commands were "Left or Right ___ mils, Up or Down ___ mils." These were translated into deflections and quadrant elevations by the computer and transmitted to the chief of section by phone or voice. Instrument readings to each target were measured before the assault gun occupied the position in order to reduce the amount of time the gun was exposed. Conduct of fire was expedited by the fact that the 155mm projectile may clearly be seen by the eye for several hundred yards before impact, thus permitting accurate sensing on rounds.

Assault fire with the 155mm gun is expensive in equipment and manpower, and commanders should weigh carefully all factors before committing this weapon to an assault mission. While the gun is extremely effective and produces a remarkably high degree of battle morale among combat troops, it is nonetheless a sitting duck. The only protections are armored vests (borrowed) and foxholes. The armor of the SP gun is of no practical value. The gasoline-powered engine is vulnerable to burning by hits from even light mortars. The high silhouette, great muzzle blast, flash and noise quickly focus the attention of all on the weapon. The issue is usually resolved by getting your mission done in the shortest time and getting out before the enemy can react.

ASIDE from the state of training of gun squads, accuracy of the 155mm gun in Korea was mostly affected by tube wear and ammunition.

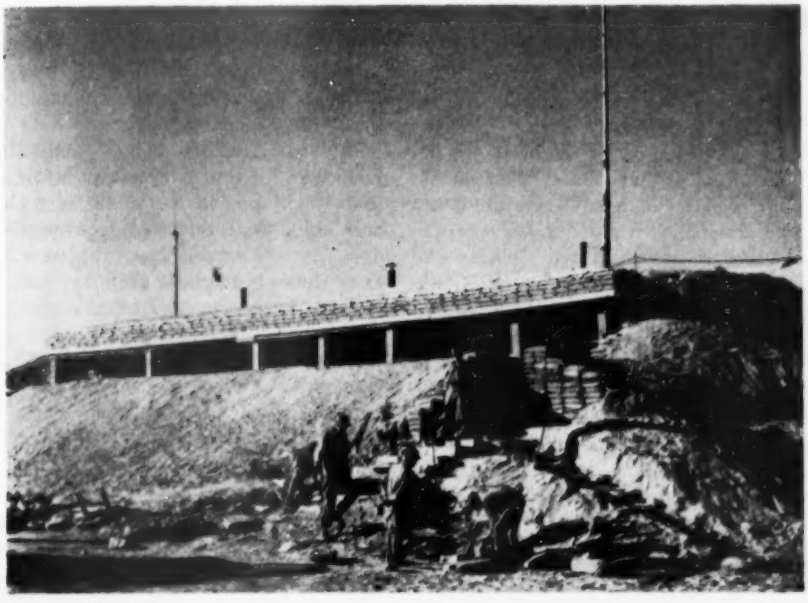
Although Ordnance calibration teams appeared at infrequent intervals, the results of their efforts were short-lived, due to frequent arrival of new tubes. The high rate of ammunition expenditures caused rapid tube deterioration. Each battery attempted to equalize velocity error from tube wear among its four guns by firing destruction missions and H&I fires from those tubes having the least tube wear. Normally, however, tube wear between guns of the same battery is so pronounced that individual VE corrections are necessary. This correction, on occasion, has been as large as plus 92 foot seconds which amounts to a plus 780 yards correction at 20,000 yards. Considering that this battalion has fired through 145 new tubes during the Korean War, the expenditure rate is obviously significant.

Ammunition resupply procedures had a direct effect on accuracy. At one time a single battery of this battalion had 31 different powder lots in its battery position, each having distinctly different ballistic characteristics. To correct this we adopted these procedures.

First, cooperation of the ASP was enlisted and every effort made at that point to issue large quantities of the same powder lot number and square weight projectile rather than random issues of several different ones. The battalion ammunition dump was organized so as to provide separate stacks for each powder lot and square weight projectile, and a chart was kept that showed the current storage situation. This chart let us issue to batteries all the powder available of a single lot. Ideally, each battery's basic load consists of not more than three or four separate powder lots. Additionally, each battery usually had a quantity of mixed lots for use on H&I missions. The chief of firing battery maintained a chart reflecting current storage in the battery ammunition dump and in each gun pit. The powder pit at each gun emplacement was divided into four bins. Each bin, uniformly in each battery, contained the same powder lot.

This system of ammunition storage permitted each battery FDC to designate for each fire mission the powder bin to be expended and thus we got uniform ammunition performance.

The FDC bunker has three rooms: FDC, Operations, and S2



A WIT of little standing observed of the Korean conflict that "it isn't much of a war, but it's the only one we've got." Actually, the Korean War offered a great deal in the way of training and experience. The problems of rotation, training, cold-weather operations, operation and maintenance of worn-out matériel, individual morale and unit esprit, each could (and should) fill a textbook. However, running through any experience gained here is the very real necessity for flexibility: Flexibility as to doctrine and techniques.

NIGHT FIGHTING

LIEUTENANT EDWARD L. MURPHY, JR.

NIGHT fighting often terrifies and bewilders even the most seasoned veterans of daylight actions.

We learn to "be afraid of the dark" in childhood and many of us never get over it. Usually it is a matter for jesting—you whistle as you pass the cemetery—but in combat it can be a very serious matter.

In reality the hood of darkness should be a blessing to the combat infantryman. For with darkness comes almost unrestricted freedom of movement, freedom from observed small-arms, artillery and mortar fire and protection from air observation and attack.

The importance of night movement and the feeling of security at night has never been more apparent than in Korea where a stabilized situation has restricted daytime activity, and many patrols and attacks are limited to the hours of darkness.

The infantryman is rarely in a more advantageous position in defense than he is at night. For, depending on the brightness of the moon or artificial illumination, one soldier at night in a stationary position can see and hear from ten to thirty yards or more. The travel of sound at night, the security of a stationary defensive position, and the fact that the enemy has to do the moving make night defense against heavy odds quite possible.

But confidence in himself and confidence in his unit is necessary before a soldier will stay in a position at night and fight. And this confidence comes only through experience in a good outfit or through excellent training.

Several instances of excellent night defense were recorded during the first four months of 1951 by Company F, 17th Infantry.

DURING most of that first year it was almost SOP for us to attack and patrol during daylight hours while the enemy limited his attacks to the hours of darkness. The advantage we enjoyed in this night defense was outstanding.

LIEUTENANT EDWARD L. MURPHY, JR., Infantry, served in Korea with the 17th Infantry, and is now on duty at Fort Riley, Kansas.

Our casualties at night were rare while enemy losses were always high.

There was one example on the Hungnam perimeter on 19 December 1950 when a five-man machine-gun squad from the first platoon of our company remained on an OPLR fighting off an enemy battalion in the darkness for more than two hours.

When their ammunition was gone and the squad withdrew, artillery was dropped onto the position. When the position was retaken at dawn, 102 enemy bodies, killed by either artillery or machine-gun fire, were found on the position. All five Americans got back.

In the case of defense of the main positions there were many examples during the rapid attack north by the United Nations in February, March and April, 1951, when counterattacks by the enemy somewhere in the regimental sector were an almost nightly occurrence.

When the 17th Infantry started its thirty-five-mile drive on 5 April from fifteen miles south of the 38th parallel to a position twenty miles north of that parallel, Company F was hit eight times in twelve nights. All of these were minor probing attacks.

An excellent example of these attacks was the last one in the operation on 17 April. I will relate it in detail, although it should be remembered that this is only a typical example of something that happened nightly along the entire Eighth Army front.

It was 0200 on that cool April morning when Lieutenant Walter McIlwain shook me out of a deep sleep. "Murph, they're hitting the first platoon. Better go on out and I'll get the FO out as soon as he gets illumination on the way." After six months with the first platoon, I had been pulled back to company as exec and weapons platoon leader for a "rest," but Mac knew they were still my boys.

As I started tugging on my boots while shaking the sleep from my head, I thought of the defensive organization of the ground.

The company CP was about twenty yards below a point where two ridgelines junctioned. One of these ridgelines, on which the battalion was organized, ran across our front, while the other ridgeline extended at right angles to it, running towards the enemy positions. We had taken this position the day before and had organized with George Company on the left and Easy on our right. Our first platoon was extended for about a hundred yards along the ridgeline that ran toward the enemy. The platoon was dug in on both sides and at the farthest point of advance we had placed the platoon machine gun, along with an attached section of two lights from H Company's machine-gun platoon.

The first platoon was led by then Master Sergeant (now First Lieutenant) Mineo Inuzuka, who had started with the company as a corporal and assistant squad leader. Sergeant "Min," as we all affectionately knew him, was an outstanding combat leader and became one of the most decorated heroes in Korea.

The ill-trained soldier who lacks confidence in himself, his comrades, and the tactics he was supposedly taught is a poor night fighter. Successful night fighting comes from confidence acquired painfully in training or bloodily in combat.

AS I started towards the machine-gun section, which I could hear firing, I hoped that the artillery illumination would soon be on its way and that our own 60mm mortars could fill in with their few illumination shells. It was mandatory that we get as much illumination over the area as soon as possible. Even surer than well-aimed machine-gun fire in stopping night attacks was illumination—the answer to an infantryman's prayer during a night attack.

Enemy small-arms and automatic fire raked over the ridgeline as I moved up. The enemy artillery attack, which had completely missed our positions and gone over the ridgeline, had ceased. This was the first night the enemy had used artillery to "soften" us up prior to their assault.

As I moved along the ridge I checked the positions on each side of it. The dogfaces were bantering back and forth as I moved. This light attitude was important at night, even as humor in the daytime aids in relieving tension, and it came naturally to these youngsters. But even though they joked with me they were gazing and listening intently to their front.

Such queries as "What do you think about night baseball?" "Are they using live ammo tonight, Lieutenant?" and "Is the hot chow on the way up?" were typical. I checked in at the first platoon CP which was just another defensive position along the ridge, into which commo wire had been strung. The little platoon medic, probably the gamest individual in the platoon, Corporal Gerald Schnurr, was on the telephone keeping in contact with the squads via the sound-power telephones. He told me that Sergeant Min was checking positions and that SFC McDaniel, the assistant platoon sergeant, was back at the company CP for ammunition. Knowing the location of leaders is important at night, just as in daytime.

On the way toward the machine guns I found the OPs for the attached 4.2-inch and 81mm mortar observers. They were already adjusting fire to within 100 yards of our forward location, attempting to "interdict" the area, sealing off the assaulting enemy from any reinforcements or reserves. Our own 60-mortar section leader had already fired the emergency illumination shells he carried and had brought his HE fire in close to our positions.

I arrived at "machine-gun point" just as a blinding explosion hit. I jumped into the nearest hole amid the rattle of burp guns, carbines and machine guns.

A concussion grenade had temporarily stunned the machine-gun section leader. "Welcome to the party. We're having a hell of a good time, Lieutenant Murphy." And he meant it.

A machine gun was on our left, one on our front and one on our right, and the M1s and BARs of the first platoon were in position on each side of the ridgeline.

Everything under control, I settled

down to enjoy my role as an observer. Sergeant Min slipped into our hole with the observer from the 4.2-inch mortar outfit, who said he moved up because he couldn't see too well from his OP and wanted to know just where I wanted his fire. I immediately directed it to our left front where he was already registered. This was a dead space because of the hill mask for artillery but it was made to order for our heavy mortars.

I ask the section leader how close they had come on the first assault. "Pretty close," he said, and pointed to a still dark form between two of the machine guns, six feet in front of us.

When the first artillery illumination went off, we were all too busy firing at the dark forms to our front, but on the second shell I could see several bodies in the semicircle around us and I knew what "pretty close" was.

Sergeant Min left during a lapse in the firing to check his positions again. The two-man holes were from twenty to forty yards apart all around the point we were on and he was worried about those empty spaces in between. We always felt it was better to keep two men together rather than have the holes closer together through the use of one-man positions.

I LATER found out that earlier in the attack, Min had discovered two men moving along the ridgeline towards the rear.

"Who is it?" he called.

A couple of brand new replacements answered. When asked what had happened, one replied:

"There must have been a hundred of them coming all around us, so we escaped while we could." And the other in excited breath chimed in: "We better all run for our lives." This was a display of fear of night combat that happens even to veterans. It is a spark that must be quelled to maintain the position.

Sergeant Min talked calmly for a few minutes and the new men were led back by their platoon leader to their automatic rifle.

When dawn broke some three hours later these two replacements, only thirty-six hours in the platoon, were still coolly holding their position, their BAR barrel hot, and three dead gooks within spitting distance. Thus a pair of cool, cocky veterans were made overnight by the calm assurance of a fine leader. However, never again were two replacements placed in the same position when that platoon dug in for the night. So a lesson was learned.

With the first lapse in the attack, a winded artillery lieutenant with his radio strapped on his back, walked upright to our position at the machine gun asking how far forward were the front lines. Our answer quickly added another occupant to our hole.

Now with all the offensive fires controlled from one point and a coordinated ring of fire placed around the platoon position, we felt secure and ready. Already a load of hand grenades had come up from the rest of the company.

We waited for the next assault. As long as it was dark the enemy would keep trying and only until a few minutes before dawn could we be certain the firefight was over.

Not a GI had been touched. Carbine ammunition, which was what most of the ammo bearers were firing, was running out, so we called for more from the first platoon CP, where the message was relayed to company. All riflemen in the company carried a basic load in their belts plus four bandoliers so there was always plenty of M1 ammunition. In addition it was SOP to stock a supply of carbine, machine-gun ammo and grenades at the forward company CP when a new position was being organized.

About 0330, almost an hour after the initial attack had subsided, much yelling and noise were heard down the slope to our right front, and we knew we were ready for more action. With fifteen illumination flares an hour from the artillery we could see pretty well. However, the activity on the right front indicated just the opposite—that we would probably get hit some place else.

Sure enough, a few minutes later, a warning shout came from the left, and two enemy grenades burst outside our positions. The machine guns opened up again, our mortar and artillery was increased and we were able to pull our own 60s in within fifty yards. This attack was short-lived and we decided that the mission that time had been to carry out their wounded and dead.

WITH the first inkling of dawn came the count of seven enemy dead within a body's length of our positions on "machine-gun point." The men climbed from their positions to retrieve enemy equipment in the close vicinity. It was a happy carefree mood that is found only in a group of combat infantrymen when they realize they have done a good job.

When an enemy automatic rifle suddenly opened fire it was a dive back to our holes. A wounded gook with an AR was located and our two Koreans in the platoon called for him to surrender but all he did was curse and fire. He was silenced with a well-aimed grenade and the platoon started its search for enemy weapons, documents and the count of the dead.

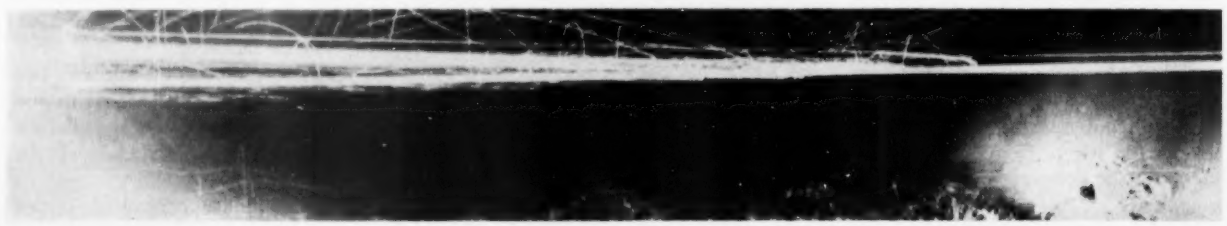
Thirty-four bodies were counted. Apparently all the wounded and possibly some of the dead had been dragged back as the marks of dragged bodies were found along the trail.

This was just one minor action of many such actions that occurred nightly all along the Eighth Army front. But the fitting in of all defensive fires, the excellent coordination between units and the attitude of the men make it a good example.

It was during and after such actions as this one, though, that you can find the very heart of the spirit of the American infantryman. It is in such actions as this one that the infantryman finds confidence in his weapons, his leaders, his unit and most of all himself.

I think that after a few night actions a combat soldier becomes used to fighting at night, but it is in these first actions that we have been seriously harmed. A lot of ground has been given up and a lot of lives lost because somebody pushed the "panic button." I think most of us in Korea have heard a variation of that dreaded call at night: "Run for your lives. There's a thousand of them."

Confidence in night fighting must be developed in training, for only confidence at night will bring success at night.



PROMOTION SYSTEM IN TRANSITION

LIEUTENANT COLONEL E. N. KIRSTEN

We had the Old Army, then the New Army, and now we have this (what is it?) Army!

IN a remarkably cogent little piece written as she finished her tour in the Office of the Secretary of Defense, Mrs. Anna Rosenberg listed as the Number Two cause for the low morale in the Army: "Loss of faith in the promotion system . . ."

The statement intrigued me for several reasons. First, because the more I reflected, the more I realized how widespread and bitter has been this loss of faith. Second, because as a morale-destroyer I would place it even ahead of her Number One cause: failure of military pay to keep up with the cost of living. And third, because of all the causes listed, this one seemed most within the power of the Army itself to do something about.

Somewhere between the fourth and fifth bottles of reflection, the light dawned, the pieces fitted together, the pattern became clear, or however you prefer to describe my realization of what is wrong with the promotional system, and why.

The answer is quite simple. The Army is about midway in its transition between two completely and basically different philosophies of promotion. A certain amount of group stress and individual discomfort during such a transition is inevitable.

Before we were unified into three services instead of two, the Army and Navy approached the problem of promotion from opposite directions. The Army promoted on seniority with a procedure for selecting and eliminating the unfit. The Navy based its system on selecting and promoting the fit, leaving the unfit to fall by the wayside as passovers. It would appear that the two systems would meet on the common ground of having promoted all the deserving and having eliminated all the undeserving. In practice, however, it didn't work out that way. Each system had its evils and both systems fell short of their goals.

The evil of the Army system lay in the difficulty of actually eliminating the unfit, so that a certain amount of deadwood was carried along. The evil of the Navy system lay in the likelihood of passing over a competent, or even outstanding, officer, based on a single unfortunate relationship with a given superior.

I think the Army system was preferable to the Navy system on a long-term *peacetime* basis, for a number of reasons—at least, preferable for the *Army*. For one thing, the ratio of Army expansion is about 10-1 in war time, as opposed to the Navy 2-1, so that most of the deadwood shows up as pretty sound timber under mobilization standards. Also, the sources of Army officers are a lot more varied than the Navy sources, so that it is harder to reduce officers to a common basis for comparison and selection. My basic reason for preferring the old Army system, however, is far more fundamental to a system of management. This reason is that while promotion by seniority does not necessarily *stimulate* initiative, aggressiveness, and even personal integrity, at least it does not *penalize* those qualities. While theoretically the selection system is intended to promote the best officers, in practice it puts a much higher premium on "keeping your nose clean" than does the seniority system, because the latter provides far less chance of single mistakes ruining a man's entire career. In peacetime, when there are limited opportunities to demonstrate one's capacity for command and where results are normally less apparent than methods, there is little chance to establish a batting average. Hence, under the selection system, there is more of a tendency for the officer to play the situation by the book (or merely pretend to play it; or not play it at all) rather than risk the chance of an error on his own initiative. Similarly with other desirable qualities. It is a fundamental characteristic of human nature that if you ask a man to choose between right and wrong, he will normally choose right. Force him to choose between right and himself, however, and right has a much greater chance of coming off second best.

THE law which went into effect in 1948 and established the rules under which we are supposed to be operating, tried to combine the best features of both systems by providing promotion by seniority in the lower grades and by selection in the higher. However, the present policy of temporary promotions means that for all practical purposes the Army is on a system of promotion entirely by selection. Nor is the fact that the pass-over is only in temporary rank, instead of permanent rank, much consolation to the man who must resign himself to being one, two, or five years behind contemporaries. Anyone comparing the atmosphere of pleasurable anticipation as promotion dates approached in the "good old days" with the present atmosphere as officers sweat out the action of a selection board in anxiety, uncertainty, and the feeling that promotions are even more a matter of luck or the caprice of the fortunes of individual assignments now than during the war, cannot help but feel that Mrs. Rosenberg put it all quite mildly. Add to this the even more distressing symptoms such as the avid search for "safe" assignments instead of challenging ones, the frantic scurry to transfer out from under "hard" superiors, the change in incentive from doing a good job to getting a good score, and finally, the number of the best officers who are thinking of leaving the Army, and you have the situation so bewildering and disheartening to the career officer who began his service under the old rules.

Of course, eventually we will adjust. The Navy has lived under the system for a long time—just how successfully I am not prepared to say, but certainly without the loss of morale presently being experienced by the Army.

There are two aspects to this adjustment, the change in attitude of the raters and the change in attitude of the rated. In other words, rating officers, becoming more aware of the possible effects of their reports, will be more meticulous in making out the report, less to express their honest opinion than to attain the desired positive or negative effect on the career of the officer being rated. The officers to be rated, of course, being even more poignantly aware of

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LIEUTENANT COLONEL E. N. KIRSTEN, Ordnance Corps, is a former artilleryman now on duty at the Ballistic Research Laboratories, Aberdeen Proving Ground, Maryland.

the possible effects of a bad report, will be even more meticulous about not giving cause for a bad report. Whether the over-all effect will eventually be constructive, and how soon, in view of the present maladjustments, remains to be seen.

The problem of adjustment has of course been aggravated by a number of unfortunate factors, of which the expansion complication resulting from the Korean situation is only one. Second only to the general lack of awareness as to the implications of the change in philosophy, the most serious handicap to an early and smooth adjustment was the inadequacy of the efficiency report in use in 1948. In a system which demands precise knowledge on the part of the rater of just how his report will affect the officer rated, the rater not only did not know what effect any given score would have, he did not even know whether his report was favorable or unfavorable! While this particular report form was discarded shortly thereafter, there are a great many surprised and remorseful raters who discovered that instead of the pat on the back, or the mild criticism they had intended, they had actually delivered a near-fatal kick in the teeth—and that nothing they could do or say later could undo this unknowing damage.

EVEN the present form leaves a great deal to be desired in permitting the rater to know exactly what he is doing to the officer he rates, although raters are gradually learning that the various phrases on the form have special meanings not readily apparent. Unfortunately, even less apparent are the special meanings attached to various descriptive adjectives, so that it is still possible for the rater to think he has been complimentary or merely explicit, and actually have the comment scored as unfavorable.

However, sometimes even favorable reports are not enough. While case histories, examples, and "frinstances" are perhaps superfluous, since every officer has personal knowledge of as good examples as any I have, and in more detail than I can give here, there is one I consider too fascinating to omit. This concerns an officer who had two reports from the same superior. As you read the reports, it is obvious that the second was intended to be better than the first—the narrative is more eloquent and the Xs are farther to the right. However, the second was scored lower than the first, indicating a drop in efficiency. The explanation given the officer was that the scores are not finally assigned on the basis of the report itself but on the relationship of that report to the reports of all other officers. Therefore, while his individual efficiency had admittedly gone up, the over-all efficiency of the Army had increased so much during the same period that his individual gain showed up as a relative loss. Whether this second derivative effect was the result of a basic fallacy in the system, just an error in computation, a general inflation of all efficiency reports because of the increasing awareness of the implications of promotion by selection, or whether in fact the over-all efficiency of the Army is improving rapidly, I have only an opinion. However, I do know the effect on the attitude of the officer involved when he was not selected for temporary promotion, *apparently* on the basis of the "downward curve" of his efficiency index. (I say *apparently* because no one really seems to know these answers.)

AS I said, we are about midway through the adjustment period. At least we have reached an awareness of the problem. In general, however, things should improve over the next few years as more and more people realize the implications of the present system—as raters exercise more care in a fuller knowledge of their power, as more older officers raised under (and still tending to mark under) the old system leave the Army, as more officers who have been stung under the change reach positions of power and influence (and sit on selection boards), and as a new set of unwritten rules, tacit understandings and conventions regarding marking reports are evolved.

But the conclusion still tends to be unpalatable, for what adjustment can we recommend for the younger officer? What encouragement and advice can we offer the man whose career is still under the actual or potential domination of a single unfavorable report—whether undeserved, unknowing, inadvertent, or malicious. What can we *conscientiously* and *realistically* say to him other than "Keep your nose clean, fella!"?

Will that produce the kind of Army we want?

TARGET ATTACK

With the help of the Field Artillery Branch of The Artillery School, COMBAT FORCES JOURNAL is able to introduce artillerymen to the new electronic Gun Data Computer, T-29.

THE reputation U. S. field artillery won between 1941 and 1945 is well deserved but it shouldn't stand on its laurels. We artillerymen know that we will lose our crown of championship if we are smug and rest on our record. We know how dangerous it would be for us to assume that we have developed the "perfect" technique. We know that if we are to retain our role of "killer on the battlefield" we must continuously improve our weapons, techniques and equipment.

The adoption of the target grid method of fire vastly improved observer technique. No longer is the observer burdened with the factors or gimmicks that made artillery mysterious. But the burden removed from the observer has been transferred to the fire direction center. The observer is more efficient, but complications harass and delay the fire direction team.

The ultimate goal of field artillery is to be able to deliver surprise fire on every target it attacks. This is why we develop new techniques and equipment.

SURPRISE fires may be delivered when certain conditions are met. First there is the problem of the location of the target with respect to the guns. This is not new. But we do not have a new device to help us solve it. There have been improvements: countermortar and counterbattery radar, for example, but for targets other than hostile weapons, we have made no appreciable improvement since 1945. Nor do we have one in the works. However, the system we have will locate some targets accurately.

Second of the conditions we must have if we are to deliver surprise fires is the proper application of all ballistic corrections to chart data. This a fertile field for improvement and one in which we have a solution.

As in World War II, we teach and practice that the best corrections are obtained from registration. This statement will always be true because it includes all elements of the system of fire—from oddities of the gun tubes and fire control equipment, to errors in location of the battery with respect to the target area. Yet we know that our application of registration corrections within transfer limits is a good approximation. More accuracy would result in delay.

Our system of applying registration corrections shows to its greatest disadvantage when firing unobserved fires. When our technique should be at its best, we find our standard system at its worst. Let's analyze a set of conditions and determine the magnitude of errors introduced at transfer limits by the percentage range approximation we use.

An artilleryman would find it ideal if the corrections determined by registration would apply to all of the other targets he wanted to engage. But this isn't the case. It would be advantageous if the corrections so determined could be applied to all other targets in the form of a proportion to the range to the target. This is exactly what we do as long as we stay within transfer limits.

Proportion is the simplest way of deriving firing data. All we have to do is determine its value at the registration point and apply it to other targets. This certainly is an ideal solution to be set up on a logarithmic rule as we do with the GFT.

However, this method has several limitations. For example, transfer limits seriously limit the flexibility of our firing. Those of you who have been in Korea know only too well that when you must fire not only to your front, but to both flanks, and possibly to your rear, that the corrections for one point do not work for all directions and ranges.

We know that if our front is wide and we intend to place surprise fire with any degree of accuracy on targets all along this front, we must register several check points in order to have corrections throughout our sector. When we fire several registrations and keep the corrections up to date, we expend a good deal of ammunition and complicate our method of keeping corrections.

LET'S look at some of the factors that affect the trajectory of a shell. As surely as death and taxes, weather, weapons and ammunition confront us every time we fire a round. Each of these contributes its own idiosyncrasy to our firing.

The only way we can at present transfer fire from one target to another, based on a proportion and achieve maximum accuracy, is to have normal weather. But weather is never normal. Here are the results of a survey taken in various parts of the world between latitude 35 and 50 degrees north, which shows the variations from normal that we may expect.

Element	*Deviation from Standard*
Air Density	5%
Air Temperature	20 degrees
Range Wind (rear)	30 mph in line 2
	32 mph in line 3
	35 mph in line 4
	37 mph in line 5

These are not maximum deviations; larger variations are possible.

To handle these elements when we want to transfer fire, we measure the deviation from normal from the metro message, multiply this deviation by the unit effect in the firing table at the range to the registration point, and apply a proportion of the correction so determined to all other targets.

There are other factors that are handled at the same time. These are:

Element	*Deviation from Standard*
Weight of projectile	One square
Powder temperature	20° (10 ft/sec)
Muzzle velocity error	10 ft/sec

These three elements are handled exactly as we handle the weather—and similar errors are an end result.

The chart below combines all elements and the errors that we obtain from them, if we have the expected deviation from normal. In the chart the errors have been carried to the nearest tenth of a yard and it shows only the errors that occur at transfer limits when the direction of fire is not changed from the direction of the registration point.

Element	*−1500 yards*	*+1500 yards*
Weight of projectile	−6.0	+8.0
Powder temperature	+6.2	−6.2
Muzzle velocity error	+6.2	−6.2
Air density	+3.7	−3.8
Air temperature	−14.6	+14.6
Range wind	−38.4	+41.7
Total error	−42.9	+48.1

These are small deviations. We frequently find much larger ones and, of course, as the deviations grow larger the error increases. Also note how easily the errors could become cumulative instead of compensating as in this example.

These errors are real: at each transfer limit we are more than two probable errors away from our target center. And you will notice that the greatest error is caused by wind. This wind error becomes important when we attempt to transfer within transfer limits but in directions other than to the registering point.

When we move our direction right

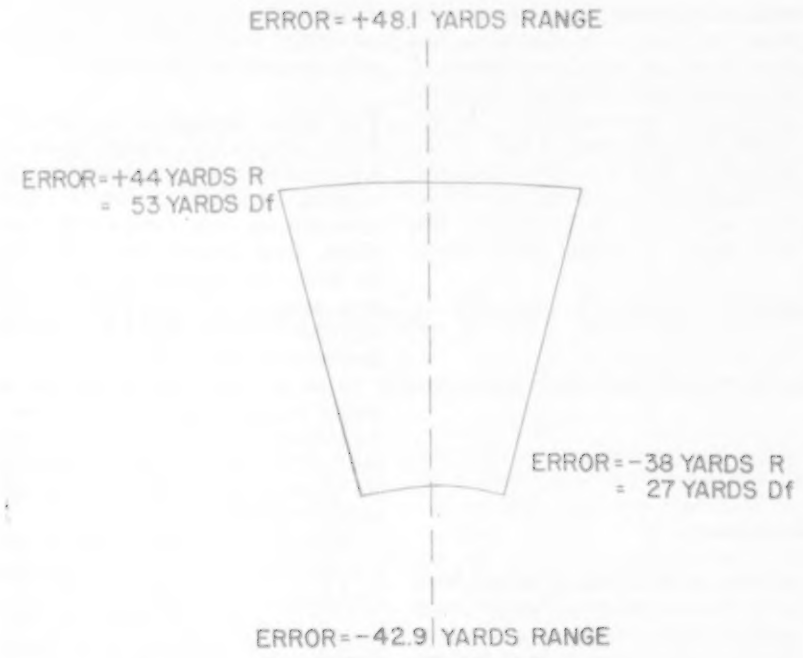


Figure 1. **How we correct for wind**

or left of our initial line of fire, all of our factors that contribute to error remain constant with the exception of wind. Wind has the nasty habit of changing from head or tail to cross wind.

This phenomenon is best explained by the predicament of the young lady on the preceding page. The high wind affects her trajectory, but as long as she continues in the same direction, she is able to overcome most of the difficulties. Notice though that the moment she changes direction, although she continues to apply the same correction for wind, the cross wind effects that she was compensating for, have changed now and are giving what we might refer to as a tail wind effect.

The same thing takes place in our firing. We correct for wind only in the direction of our registration point and then transfer right or left 400 mils without worrying about its change of magnitude. Figure 1 shows this clearly.

SO far we have discussed what might be called "known errors" or those that we can actually account for in the firing tables. There are other errors more difficult to define. These are: ammunition, weapons, and survey.

All of us are familiar with the lot to lot variation in propellants. We are glad to report that a recent survey conducted by Ordnance Corps reveals that the lot to lot variation in the new dualgran propellant for the 105 howitzer causes very little more error than the round variation within a lot. But what causes round to round variation? To begin with, the propellant itself may vary a slight amount and cause a small error. A small variation in shell finish or rotating band can cause an error. The position of the propellant in the chamber or the shell case can vary the time of burning and therefore the muzzle velocity. Also, although we account for the variation in weight of projectiles by applying a factor for one square difference in weight, the allowable tolerance for the 105mm per square is .6 pounds. This can cause a round to round variation of as much as one range probable error within the same weight zone.

Errors caused by the weapon itself are primarily in the individuality of each tube, variation of jump, and errors caused by on-carriage fire control equipment.

Assuming that our survey has been properly performed and computation has been by use of five-place log tables, our instruments still make us susceptible to errors of one part in 500. We can't improve upon that with our present equipment. But the one part in 500 error due to instrumentation may prove to be a compensating error and is seldom that bad if we use the proper techniques.

These last three errors are of small magnitude when compared to the six errors we discussed first. They also remain more or less constant and we can easily devise methods of compensating for them.

On the other hand, the proportional errors due to weight of projectile, powder temperature, muzzle velocity and weather are large and can easily destroy a great deal of the effectiveness of unobserved fires when we use our present techniques. Improved techniques are the answer.

APPRECIABLE improvements in technique may be made when the sources of our information and equipment are improved. And there *have* been improvements since World War II.

Meteorological Data: The Rawin set AN/GMD-1 is the new meteorological sounding equipment which has recently been introduced and service tested. When used in conjunction with an automatic meteorological computer we can expect much greater accuracies than we have had in the past.

Several studies on the accuracies of meteorological data have been accomplished. It seems to be agreed that a great portion of the inaccuracy of meteorological information as applied to our firing problem results from stale information. Signal Corps is experimenting with rapid-rising balloons to reduce time of flight. An improvement in communication, coupled with improvement in meteorological sounding and computing equipment, should provide us with more accurate and more frequent data.

Velocity Errors Determination. Our techniques and procedures in the past have considered everything other than meteorological corrections as the responsibility of the individual registering gun. We have kept records of our VEs and have attempted to predict fires on this basis. But we know now that we must separate the effects of a worn gun tube and propellant variations from other errors (such as errors in survey) if we are to improve our application of corrections. A field-type chronograph would permit us to determine the personality of the gun tube with a far better degree of predictability than the comparative calibration system we use now. The chronograph would help us to determine the actual shooting power of each weapon so that proper unit effects may be applied.

Ammunition. There have been improvements in ammunition that will result in great benefit to us. In the direct-support weapon—105mm howitzer—we find a smaller range probable error with our new dualgran ammunition. This may be attributed not only to an improved burning rate of the propellant but also to an improved shell finish and a better method of fitting and rotating bands.

Firing Tables. As we all know, both the tabular and graphical firing tables that we use today are approximations to the true ballistic solution. These approximations are tolerated for the sake of simplicity in computation. They have proven reasonably successful in both World War II and Korea. However, they are not the best solution.

Our firing tables are based upon a series of trajectories that pass through a target at the same height as the guns. These trajectory data are based upon firing table standard conditions. Consider some of the effects on our firing table ballistic solution when we deviate from the conditions upon which the firing tables are based.

Figure 2. Standard trajectory

To assist in this analysis, divide the problem into two phases: (1) consideration of the basic trajectory, and (2) the application of second order effects such as muzzle velocity error, weight of projectile, and the meteorological elements of air temperature, air density, and wind.

The Basic Trajectory as presented in the firing tables is true when the target is at the same height as the gun and when conditions are standard according to the assumptions as stated in the firing tables. In our use of the tables we assume *rigidity* of the trajectory to derive elevation corresponding to chart—or horizontal—range between guns and target. Yet we acknowledge *non*-rigidity of the trajectory when we correct for differences in height between the target and the guns by our application of the "complementary angle of site." The old method of applying a composite factor is not correct when angles of site exceed 20 mils; however we can derive the true correction through use of the site tables contained in the new 105 H-4 tabular firing tables. This procedure requires double interpolation of the site tables but does provide a better solution.

The fuze times shown in the firing tables are correct only when firing table conditions are duplicated.

A more straightforward solution to the derivation of quadrant elevation and fuze time would be arguments of horizontal range and height. Figure 2 shows a standard trajectory. Note the time of flight tick marks. As shown on this chart, there are many combinations of range and height that will reproduce points on the same trajectory. The difference being the time of flight of the projectile to each of the points selected.

The application of second order effects is the second point in our analysis. The unit effects, or second order effects, columns of our firing tables are based upon two assumptions: That the target is *always* at the same height as the guns, therefore the time of flight of the projectile behaves in a predictable manner; and *that each* variation from standard conditions is the *only* variation to be considered and therefore may be applied directly to the *basic* trajectory.

The first assumption—that the target is at the same height as the guns and therefore the time of flight is the same—was shown to be fallacious in Figure 2. The unit effects tables are based upon the theory that the projectile is exposed to non-standard conditions over a period of time corresponding to the time of flight of the projectile and a double sampling of the air above the gun—that is, on the ascending branch of the trajectory to the maximum ordinate—then the descending branch of the trajectory to the gun height. Since the projectile is known to have a lower terminal velocity than muzzle velocity, this must be considered in determining the effects of non-standard conditions on the flight of the projectile during the descending branch of the trajectory. It is readily seen that an interruption of the descending trajectory—either above or below the target—will cause a variation from the firing table assumption and therefore will introduce an error in the unit effect column of the firing tables. This error will be small when there are small angles of site but it should be considered. It can amount to an error of over 100 yards when the angle of site is large.

THE second assumption that considers each variation from standard as an independent variation provides much larger errors. In actual fact there is a cross effect between each of the second order effects. Each element that varies from the firing table standard condition will have an effect on other elements that vary from standard. Figure 3 is a simple illustration of this point.

So we see that when a trajectory is warped because of one of the non-standard elements, any attempt to correct the standard trajectory for other non-standard elements makes for errors in the ultimate solution.

Although firing tables could be developed that would give us accurate considerations, they would be too complicated to use efficiently with hand computation. Any computing device that is adopted would have to take these errors into consideration and give us the best solution to the ballistics problem.

Based upon the information discussed thus far, it may be concluded that our trends in development should follow this priority:

(1) More and better target location devices and techniques.

(2) Improved techniques for more accurate ballistic solution to the field artillery problem.

(3) Improved fire direction center equipment to reduce probability of human error in—and improve the accuracy of—computation of firing data.

Shortcomings in our techniques prevent us from achieving our second goal of correctly applying ballistic corrections. Analysis shows that there are seven primary technical shortcomings that decrease efficiency:

(1) Human error and fatigue
(2) Loss of effect
(3) Registration
(4) Transfer Limits
  (a) Range
  (b) Deflection
(5) Failure to segregate errors
(6) Incorrect ballistic solution of the trajectory
(7) Logistical burden

Figure 3. Standard trajectory and trajectory warped by headwind

In 1949, Lieutenant Colonel Robert E. Arn and Lieutenant Colonel William I. King developed an electronic computer for the fire direction center that would achieve the third goal: reduce error and improve accuracy. Working with technicians at Frankford Arsenal and electronics experts of the Belock Instrument Corporation of New York, additional refinements to the original model have been made so that in its current stage of development we have an electronic gun data computer that is rugged, easy to learn to operate, simple to maintain and at the same time measurably speeds up and improves our fire direction technique. Unfortunately, it is impossible to use either a photograph or a drawing of the Computer, T-29, but the following description will give readers a good idea of its functions and uses.

The Electronic Gun Data Computer, T-29

Lieutenant Colonel Robert E. Arn

IF you visited a fire direction center equipped with the T-29 Computer, you would see three of the instruments in operation—one for each firing battery. And each of the instruments would have an operator wearing a head and chest radio set equipped with a two-position toggle switch; one position for talking to the observer and the other for talking to the firing battery.

A trailer provides the power. It is cabled into the fire direction center by means of a flexible multi-conductor cable.

The gunnery officer would be seated at his console containing a fire direction switchboard which permits direct communication between the observer and any of the computer operators. Also contained in the gunnery officer's console are a series of selector switches which will permit visual transmission of commands to any of the computers as desired, eliminating some of the cross talk presently found in our fire direction center.

A tactical map hangs behind the gunnery officer. It provides a visual presentation of output data of any of the computers at the option of the gunnery officer. Basically the output data of the computer appear as a small red pip of light on the tactical map, giving the gunnery officer an indication of where the developed firing data will hit. This is not a luxury item. In addition to providing instant information of computer output for a graphic check as to no-fire lines or proximity to friendly troops, it also serves two other purposes. It provides a means of a rapid system check to insure proper functioning of the system. It also assists in developing a chart that may be used as a conventional firing chart in event of emergency.

Let us see how a fire mission might be handled.

THROUGH unit SOP, the gunnery officer will place each of the computer operators on all incoming calls. After the request for fire is received from the observer and recorded on the face of the computer, the gunnery officer may check the plot on the tactical map and—based on information available to him—allocate his weapons and ammunition. Let us assume that he elects to fire one battery on the target. The other two battery computers are removed from the party line. The gunnery officer may remain in the communications net as a monitor or may elect to have the computer operator work directly between the observer and the firing battery.

Upon completion of the missions, the computer operator can signify termination of the mission to the gunnery officer who then may draw a circle with a template around the pip of light on the tactical map and label the concentration. After replot coordinates are derived by the computer operator, tick marks may be placed within this circle designating the exact target location. By this procedure it may be seen that we develop a firing chart for use with auxiliary equipment if required.

The system of three computers and the gunnery officer's console being interconnected permits one computer operator to follow the adjustment phase on a target and automatically transmits the adjusted target location to the non-adjusting computers for comparison with their gun data. This means that when a target location is set in on any one of the computers, it permits simultaneous computation by non-adjusting computers with each computer applying its own battery connections. This should permit us to fire battalion volleys in fire for effect. We will not have to replot or recompute before the non-adjusting batteries may fire.

The back of the computer contains the meteorological element. Each line of the met message requires four inputs —wind speed and direction inserted by two knobs, air temperature on a third knob and air density on a fourth. This panel can use our current 10 line message.

For each combination of range and deflection, the computer automatically selects the correct line number and applies the appropriate unit effects.

The met panel is removable through use of quick release screws so that a new met message—previously set up on a spare met panel—may be inserted into the computer with a minimum of time out for action. This operation should require no more than ten seconds.

Three units on the left of the meteorological panel are parallax correction units. Without going into detail, these three elements permit us to have the common target reception on all three computers.

The bottom half of the computer contains the amplifiers.

The developed firing data appear in three windows at the front of the computer. They show deflection, fuze time, and quadrant elevation.

Here's how it works. First we will take a coordinate mission. The target coordinates are inserted in three panels, easting, northing and height. They are inserted through use of a handle which turns a counter comparable to the odometer in your car. After these data are inserted, the firing data are read: deflection, fuze time and quadrant elevation.

As a matter of interest, speed tests on this type of mission have been run and it was found that from the announcement of the command "Fire Mission," as it would be received from division artillery until the quadrant elevation was commanded by the computer operator to the battery, a total time of 25 seconds elapsed.

For a second type mission, assume that radar has given us a location. In this case we would insert the coordinates of radar and azimuth, distance, the vertical angle to the target, and read deflection,

fuze time, if appropriate, and quadrant elevation.

The third type problem would be one involving the target grid procedure in which case the coordinates of reference point would be inserted in the coordinate panels. The observer's azimuth to the target and target grid spot corrections of left or right, down or up, drop or add. Again the deflection, fuze time and quadrant elevation may be read.

The dials on the target grid correction panels may be slipped to zero. This is designed as an aid to the computer operator so that he need not perform mental calculations between volleys during an adjustment.

Any of the three systems of target location, that is coordinates, polar plot, or target grid, may be combined. For example, initial data may be given as coordinates with an azimuth, and subsequent corrections may be applied by the target grid procedure.

THIS covers the three systems of target location that we use today. The remainder of the computer is that portion from which we derive the maximum benefit. In the upper right hand panel there is a high and low angle selector switch which enables us to select the type trajectories desired for the attack of the target. There is a switch which permits us to correct for the weight of the projectile being fired. Beneath the weight of projectile switch there is a muzzle velocity error dial. These switches are positioned automatically to insert corrections for deviation from standard conditions of these elements.

This single panel, plus the meteorological insertion in the rear of the computer, opens up an entirely new concept of computation of firing data. With the ability to instantaneously apply the corrections for muzzle velocity error of the battery combined with the corrections of projectile weight and meteorological information, we now possess the ability to fire *accurate unobserved surprise* fires on any target whose location is known and that lies within the range of the weapon. There are not limitations imposed by transfer limits.

The command panel is at the bottom center of the computer. Here we find a couple of design features which are unique. There are three selector switches —each containing a translucent blue disk in the pointer. Surrounding each of these selector switches there are a series of yellow lights that may be activated by the gunnery officer's console. This area of the computer is less desirable because of the eye level. Therefore we use this panel to receive certain elements of the gunnery officer's commands and to facilitate the movement of the computer operator through use of visual aids. The right selector switch indicates range spread. For example, if the gunnery officer elects to fire "center range," through a switch position on his console, a bright yellow light appears on the computer operator's panel. When the computer operator covers this bright yellow light with the blue translucent disk, he gets the green light. By positioning the selector switch he has automatically applied the desired command.

The second selector switch is choice of fuze, with time, point detonating, and VT choices. Should the gunnery officer elect to fire time fuze, when the computer operator converts the yellow light to green, he automatically has added 20 yards to the height of the initial target location.

The third selector switch is called the fire mission switch. It has an adjusting battery position which indicates the battery is to fire the mission. It also has a battalion mission position. If the computer operator is in battalion mission, the target location as set up by another computer operator will automatically be forwarded to his computer—he need only read his output data. This selector switch also has other uses. It provides a method of stripping all corrections to our basic ballistic solution so that we may determine replot coordinates. When used in conjunction with the three panels on the left of the computer you can derive the surveyed easting, northing and height coordinates of the target. An example of this operation—when the selector switch is turned to the easting position, the computer operator centers the needle in the replot dial through use of the hand wheel in the easting unit. When the needle is centered, the easting value of the coordinate appears on the counter. Similarly, northing and height are derived.

Although not a design feature, the replot element provides a bonus effect in that it will compute survey traverse notes to an accuracy of 1/3000.

Above the replot elements, we find the charge selection switch. This permits the computer operator to select a charge that will give him a desirable quadrant elevation. As we know, the most accurate fire is obtained between 200 and 500 mils of elevation. Therefore, the computer operator can select a quadrant elevation within the best usable portion by manipulating his charge selector switch. For example, the computer operator is firing with charge 3. A quick glance at the quadrant elevation dial tells him that his elevation exceeds 500 mils. This indicates that he should change to a higher charge. He simply manipulates the charge selection switch to a charge that lowers his trajectory to less than 500 mils. The computer takes care of the difference in ballistics for different charges with no effort on the part of the computer operator other than reading and turning dials.

Included in the upper left portion of the center panel at the top of the computer is a percentage range correction input. If adjusted data differ from computed data, the quadrant elevation counter is made to agree with adjusted data by turning this knob. It is hoped that this knob will remain at zero.

On the right side of the panel there is a percentage fuze correction element. With our current fuzes there is no proven way to correct fuze functioning for variations from standard conditions. Therefore, it is visualized that we must rely for the time being on the percentage fuze correction system as used today.

THE computer T-29 is built to permit the automatic transmission of data from the computer to the firing battery in the event automatic data transmission is desired. One contractor has a design of a transmission system with wire or wireless which will transmit five separate elements per second with complete check back. This may prove to be worthy of investigation at a later date.

The face of the computer was engineered so as to permit ease in operator training. It is realized that we may experience the same difficulty in obtaining the high caliber personnel for fire direction that we all experienced in World War II. As a matter of interest, nine men were introduced to the first model of the computer at Fort Bragg. Four of these were civilians and five were artillery basic soldiers. They were all highly intelligent but with the exception of two of the soldiers, none had received training in artillery fire direction techniques. They were briefed as to the artillery problem, and as to the general theory of the computation employed by the T-29. All could operate the computer after an hour of instruction. Of course, they were not proficient in this time, but it does give an indication of the design and "complexity" of operation. It is estimated that eight hours of training would completely qualify an average man in the operation of the computer in performing all fire direction problems as compared with the most favorable estimate of 40 hours with today's system.

On D minus a day or so an artillery outfit rolls on the hards of a South England port and finds landing ships awaiting it —thanks to hours of careful planning by staff officers of the Service Forces.

An Invasion Is Jeopardized

BRIGADIER GENERAL PASCHAL N. STRONG

On the eve of Normandy's D-Day the order of priority of troop build-up was suddenly changed, throwing into discard months of painstaking planning by logistical staffs. What then happened is a lesson for all combat commanders.

THE invasion of Normandy on 6 June 1944 was successful, and is so recorded. But less likely to be recorded was the grave jeopardy to it caused by confusion amounting to chaos in the invasion ports of Southern England right after D-Day. Many thousands of officers and men saw the confusion and knew of it. But only a scant handful knew of the reasons for it. I was a minor actor in the great invasion drama, yet deeply involved in the near catastrophe.

The seaborne invasion of such a hostile, well defended shore as that of Normandy is—as we all have been told and know—the toughest tactical operation in the book. But such a mammoth operation, one that involves a million men, together with their vast tonnages of armament, vehicles, equipment and supplies, creates a logistical problem that dwarfs the tactical operations. The complexity of the utterly essential staff work required to funnel thousands of men and tons of equipment through a very limited number of seaports and load them into the right ships in a very short time is beyond belief. Just one misdirected unit plan can clog the spout like wadding crammed into a funnel.

Twelve months went into the planning of OVERLORD—twelve months of hard work by innumerable staffs at every level. By November of 1943 the broad concept was set. Most of the first wave would take off from Plymouth, Portland, Southampton, and Portsmouth, all on the southern coast of England. Only American troops would take off from Plymouth; American and British from Portland and Southampton; and British only from Portsmouth. These were the initial assault troops.

After that the build-up would be chiefly through Southampton. This build-up would be principally American, for the British would have few troops left after the initial wave departed.

BRIGADIER GENERAL PASCHAL N. STRONG was graduated from the Military Academy in 1922 and commissioned in the Corps of Engineers. During the Second World War, as this article makes clear, he was intimately and actively engaged in the planning and execution of the logistical effort that made possible the invasion of Europe. He is now Division Engineer of the Ohio River Division with offices at Cincinnati.

Invasion money printed, counted, sorted and finally distributed to combat soldiers was only a tiny part of the tremendous logistical effort that preceded and followed the invasion of Europe.

The planners assumed—correctly, it turned out—that the first landings would be successful. From there, they figured, it would be a race between the build-up of our reinforcements and the arrival of the main force of German defenders. If the enemy got there first with the most, we could easily be thrown back into the sea. So, a tremendous amount of planning and effort went into insuring the success of the build-up. The railroad network of England and the water distance to the beaches dictated the use of just one main port—Southampton. The whole success of the invasion, it was indeed likely, would depend on the swift and continuous orderly flow of men and equipment through that place.

For command purposes the southern coast of England was organized into two districts of Southern Base Section, the XVIII and the XIX Districts. The XVIII District consisted of the seaports and rear areas between Portland, Southampton and Portsmouth, inclusive. The XIX District lay to the west with Plymouth as its chief port. Both districts had similar missions for the initial D-Day operation, but the XVIII District had the further responsibility of the build-up. Both accomplished their D-Day missions successfully. My story here tells of the travails and woes of the XVIII District during the vital build-up time.

In March 1944 the Commanding General designated me as the new American commander of the XVIII District, and I set up an advance command post at Southampton. To understand what developed further, I must now briefly describe the organization and physical installations of the XVIII District.

ALL told, my District had about 40,000 American troops of all categories assigned to it for construction of many kinds and operation of hospitals and depots, and for running the camps. The headquarters paralleled an expanded divisional headquarters, with amplified special staff sections such as Engineer, Quartermaster, Ordnance, Military Police, and Transportation. You will hear more later of the Transportation Section, for it was the physical and mental breakdown of this section that gravely endangered the invasion. In addition to our American troops, there were British troops under a British co-commander for the British side of the operation.

The physical installation of the XVIII District consisted of several field hospitals, many supply depots, and some thirty-odd camps of battalion to regimental size. A few of the camps were permanent British installations and the rest were built to house troops in just before D-Day or to take care of transient troops en route to embarkation. A system of dual command existed in these camps, with American and British co-commanders; when American troops were occupying a camp, the American would be the camp commander and the British his deputy. When the British passed through the same camp, the reverse was true.

This dual command system extended right to the top, and my opposite number was a British major general. But at this level neither of us alternated as deputy to the other, we each had our own independent staff to plan for the movements of our own troops. When movements had to be reconciled to prevent collision in time and space, the two staffs coordinated their efforts.

This system of dual command, abominable enough in theory, worked almost perfectly in practice. This was mostly because all major decisions were planning decisions and there was plenty of time to iron out our differences. When the clouds of chaos gathered around us soon after D-Day, most of the British troops were already across the Channel, and the operation within my District was the American build-up purely, with which the British co-commander was not concerned. Also we were lucky to speak a common tongue, we shared a common danger, and had a Supreme Commander who would tolerate no officer, British or American, who could not work as a member of the team.

MY spotlight must now focus on a group of five officers that formed the Planning and Movement Group of my Transportation Section. Theirs was a heavy responsibility. They had to take hundreds of ships, hundreds of thousands of men, and millions of tons of supplies and equipment—dump them all into a planning hopper—turn a crank, and grind out plans for a steady flow of men and material from the interior of England to the seaports; then the marriage of units with their equipment at the seaports, and the loading of units with their equipment on ships adequate for each cargo.

Here is what this planning meant if you commanded a unit stationed in Northern England. One day you got a secret order directing you to be ready to move on a six-hour alert after a certain date. From where you stood this could be another rehearsal, another grouping of forces in England, or a damn fool order issued just to annoy you. Or it could be the real thing. Some days later the order came to move out. You found just the right number of trains and flatcars waiting for your unit and the

weapons and equipment you had with you. You were told the rest of your equipment and heavy weapons would join up with you at your destination.

So you loaded your outfit and the train started out—to where? You never knew whether just your unit was moving, or if you were one of hundreds of units put into motion. In time you arrived at a camp in rear of some southern seaport. The camp was manned by a camp commander and troops and, behold! there were hot meals ready in the mess hall for your men, and cots and bedding all made up for their comfort. No housekeeping for you, but plenty else to do—a mimeographed list of several pages.

All vehicles must be waterproofed for getting them from vessel to shore through surf. You must fill out your shortages of weapons and equipment. You must issue orders that no man could leave camp for any reason whatsoever (you note that the camp is surrounded by barbed wire and is guarded). There are a dozen more things to do, and in the camp there are detachments from Ordnance, Engineer, Signal and Quartermaster to help you get them done.

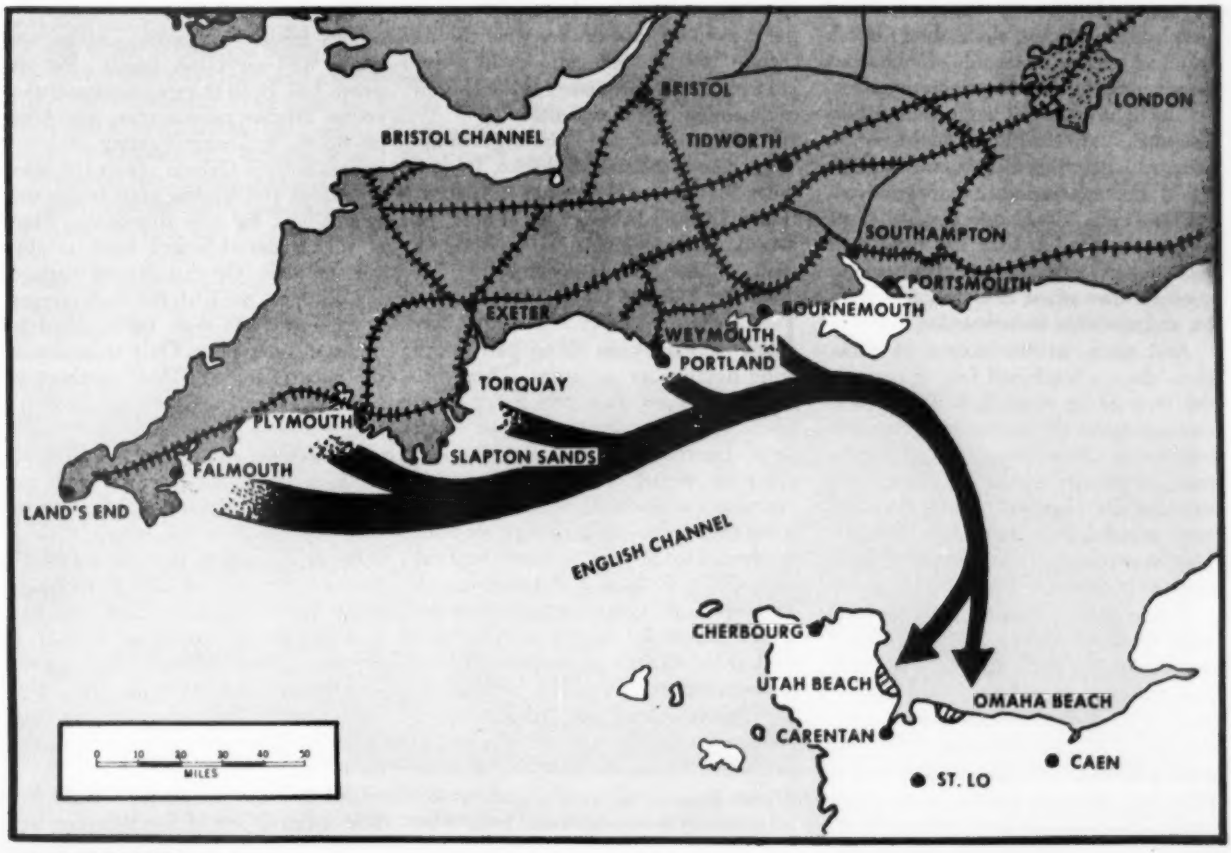
And of course the big question is in every mind. Is this the real thing? Your unit has been through this before—and ended up in a mock battle on Slapton Sands. You wonder why no maps are issued.

The next day there's something new. Invasion currency, French currency for the men to use in order to avoid pilferage in France. And you get orders to move out at a certain time, along a certain route, and arrive at a certain control point at a certain hour. MPs come to escort you—to make sure you don't gum the works and cause a traffic jam. Now you realize that the whole of Southern England is alive with movement.

And now you move out with your TO&E equipment, complete to the last item. And soon you find yourself at a dockside, Portland or Southampton. The harbor is jammed with ships of every type. Control parties direct you and your equipment to a dockside. You march on board, your equipment is loaded in the hold. Other units arrive and come on board, and when the ship moves out to its anchorage, you note the date on the board. It is 3 June 1944. You get maps—of the French coast. A heavy curtain is pulled from wall space and there are the beaches of Normandy. The battle plan unfolds, and now you see, in great detail, what part your unit is to have. It goes through your mind that a lot of people have done a lot of planning for that first-day attack. You hardly have time to think of the much more detailed and extensive planning that went into your simple movements from Northern England to your ship, movements multiplied by those of a thousand other units. It wouldn't interest you much if you did think of these things. You're a combat man, properly scornful of the logistics of an operation.

What I have just related is the fruition of successful planning—planning that took six months of concentrated work on the part of those anonymous officers of our Planning and Movement Group. Their planning involved, not only the D-Day operation, but the several rehearsals preceding it and the vital build-up movements to follow. And all this planning worked out with clocklike precision up to and including the D-Day operation.

WE wanted the enemy to think that our main effort would be on the coast of the Pas-de-Calais. An independent planning staff had been set up, concerned only with perfecting plans for the invasion of the Pas-de-Calais. Not even the members of that staff knew they were cast in the role of decoy. But



by some strange happenstance, the security measures protecting this staff were not as complete as those protecting other staffs. Somehow, we had reason to hope, the enemy's agents had gotten wind of this particular planning agency. To reinforce his erroneous beliefs, a fleet of dummy landing craft had been constructed out of floats and canvas, and it was gathering on the eastern coast of England. To anyone observing them from the shore, even with glasses, they resembled the genuine article. A system of Q lights was installed on these craft in early June, lights that flickered occasionally in the dark, and that resembled the careless lighting of cigarettes by the notoriously careless American troops. And toward the end of May, enemy photographic planes detected bodies of troops marching down toward these dummy craft. What they didn't detect was the return of those troops to their camps by night.

ONE day late in May, I was told by the scrambler telephone to report to London for a routine conference on the 5th of June. I acknowledged the message with what I hoped was a casual tone which did not betray the fact that this was the prearranged method of informing me of the exact date of D-Day.

On D minus 4 the movement of units began. By D minus 1 the invasion fleet was loaded. During those three days I watched tens of thousands of American boys go aboard their ships quietly, soberly, the light jokes and laughter strangely missing. I saw the Portland harbor so jammed with ships that an enemy plane could drop a torpedo at random and not fail to strike. Our protective air cover circled overhead as they had during rehearsals. We could not believe our good fortune when day after day went by and we were unmolested.

And then, in the course of those three days, a bombshell fell. It came in the form of an order from the ground commander of the American Forces. He —or more likely, his G3—wished the order of priority of the build-up troops substantially changed. Units that had been scheduled to leave right after D-Day were relegated to a later date; other units were correspondingly pushed up.

To the ground commander's staff the order must have seemed a simple thing. To me and my staff, it meant the scrapping of actual *months* of detailed planning that involved units, rail transportation and ship scheduling. In a word, we were asked to do in two or three days what had taken us months to do previously. And the only ones who could do it were the small cadre of our Planning and Movement Group. No one else had the very special know-how to make the complex changes.

I went into a huddle with this group on D minus 1. Even before I broke the news to them they were haggard, tense, worn to a razor's edge from the long hours they had put in during the weeks just past. They listened to what I said in a stunned silence. When I had finished I heard someone whisper hoarsely, "My God, some of those units are moving from the north already!" The leader of the group said to me, "Colonel, do they know what this involves?" "I doubt it," I said. He went on to explain in detail what it did involve. The section leader prophesied a traffic jam on a truly cosmic scale.

I listened and picked up the scrambler telephone. I reached my immediate superior, the Commanding General of the Southern Base Section, and laid the facts before him. Very reluctantly, for any good soldier hates to admit he can't carry out his orders, he agreed to transmit the facts to the logistical commander, and ask him to confer with the ground commander. I returned to the harbor to watch operations, having first instructed my group to get to work on the changes in the plans.

In a few hours the answer came back. The logistical commander would not tell the ground commander we were risking chaos. "Tell Strong," he said, "it is our job to carry out the wishes of the ground commander." That was that.

I returned to my Planning Group. Was there a reasonable chance, I asked them, that we could do what was asked? If not, I would risk my official neck, go over the heads of my superiors, and talk to the ground commander myself.

THEY were a loyal group. They knew that such an action on my part would bring disciplinary measures. They conferred with each other, and decided, unwisely as it turned out, that they could do it. I accepted their decision, and in this I was wrong. If I had possessed at that time a more complete understanding of the tremendous amount of paper work involved, I would have realized the sheer impossibility of the task. But a commander of any major operation must, in many things, be guided by the recommendations of the experts on his staff. If they come a cropper the responsibility is his and rightly so, for the selection of a competent staff is one of the most important elements of the function of command.

I returned to my command post. The harbors were empty. The fleet was at sea. Overhead, low scurrying clouds were threatening vile weather, heavy seas, and an impossible surf on the Normandy beaches. I called for the secret weather reports. The news was bad for the next two days. And delay beyond that date would mean a two weeks' postponement because of the tides.

Before dark that day we learned that D-Day had been postponed one day, possibly more. The conference the next day, held by the Supreme Commander with the air, sea and ground commanders, is now history. Air wanted to postpone. Navy was undecided. Army wanted to go through with it. Eisenhower, a lonely, historic figure, made the final decision. Hit the beaches!

At daybreak on the morning of June 6 I was awakened by the thunderous roar of hundreds of planes. I rushed to the window. The wind-torn clouds were pressing close to earth, and under them, hardly clearing the bomb-ravaged buildings of Southampton, I saw the shadowy blurs of our transport planes, each towing one or more troop-filled gliders. The tapestry of history was being woven as I watched. I thought of my weary, sleepless Planning Group, through whose fingers passed some of the vital threads of the tapestry, and wondered what pattern would emerge.

The next day was one of conflicting reports from Normandy. Things were going well on Utah Beach. But our troops had, by ill chance, encountered an enemy division maneuvering near Omaha Beach, and were fighting grimly to maintain their toehold. Soon the transport ships and landing craft began staggering back for new shipments. Many of them showed jagged holes in their grey topsides. On that day we managed to load them, not with the units originally planned, but with units called for under the new plan. Only an occasional slip occurred—a unit here or there for which no shipping space was provided, a ship here or there that had to depart with less than a full load. But this was a sign of things to come. I kept close to my Planning Group, watching them pore over the deck and storage plans of ships, troop tables, unit locators, train locators. Occasionally one of the group would fall asleep at his desk, and have to be awakened and dosed with more caffeine. They had now been working seventy-two hours with no sleep. I detailed a medical officer to stay with them. There were no trained replacements for them.

The next day the mistakes multiplied. The camps in rear of Southampton were

jammed with 50,000 troops, and each hour brought more from the north. But the outflow from these camps to the ships shrank hourly, while the ships waited in the harbor for their loads. The orders for the troop movements continued to flow from my Planning Group, but more and more of these orders became meaningless. They called for units that had not reached the camps. And units which were there in the camps got orders for railway movements they had completed two days ago. Desperately urgent messages reached me from Normandy. Where were the reinforcements? Why were ships held up? Or dispatched half empty? The main German counterattack was expected daily. Where were the fresh troops to repel it? I was summoned to the Supreme Commander's Headquarters, but I needed no admonition to realize the gravity of the situation.

The next day the climax of chaos was reached when, with the camps bursting at the seams, my medical officer reported that every man in my Planning Group had suffered a nervous and physical breakdown and had to be taken to the hospital. I went to SHAEF, the Supreme Headquarters, and laid my sorry cards on the table. All previous plans, I informed SHAEF, must be instantly abandoned. I must be allowed to empty the camps of units any way I could, without regard to priorities or the necessary paper work that would inform the beach commanders what troops to expect and when. SHAEF had no alternative but to accept. Already the enemy, by an unexpected hesitancy to commit their main body to the Normandy beachheads, had given us more grace than we could have dared to expect. But the next two days would be critical.

I returned to my command post again and gathered a new planning staff of fresh officers. Rapidly we worked out a new and simple plan to empty the camps and load the ships. I doubt if I was of much help in this; I had now been seventy-two hours without sleep myself. At any rate, a simple plan of inflow and outflow was prepared, an MP battalion was assigned to keeping routes open and units moving, and before the day was over the Southampton area was again alive with movement.

THE effect of the new plan was more drastic than the layman can appreciate. For the commanders on the far beaches, it meant the abandonment of a system which would assure them an orderly receipt of reinforcements in the proper proportion of infantry, artillery, engineers, signal, and so forth. No longer could they plan their battle knowing what units would arrive and when. Now they were forced to take whatever the ships unloaded on the beaches. Nor did they know more than an hour or so in advance what units to expect. For the best we could do was to load ships with the units most quickly available, hoping that their guns and equipment would somehow fit into the ships' holds, and when the ship was dispatched, send an invoice by plane to the beach where the ship was to sail. To the beach commanders those ships must have resembled gigantic grab bags, into which they reached hoping for the best. It was unsatisfactory and hectic, but it had the grand merit of simplicity. And it got reinforcements to the beaches and in the very nick of time.

For by this time, several days after D-Day, the German high command had finally decided that the Normandy invasion was not a threat, but the real thing. Rommel, who had been given but limited forces initially, and had had to commit them piecemeal, now had the entire enemy reserve at his disposal. He rushed them to the beachheads as fast as damaged roads and bridges permitted. His mission was to hurl the invader into the sea. Had the German high command not hesitated during those fateful days; had they not remembered their intelligence reports on the Pas-de-Calais invasion plans; had they not paid so much attention to the Allied broadcasts on D plus 1, warning French fishermen to stay away from the Pas-de-Calais, our weary troops, lacking reinforcements, would have faced grave risks of destruction.

As it was, when Rommel was able to counterattack in force, the Allied reinforcements had arrived, and the rest is history.

IN retrospect it is proper to ask why, considering the fluid nature of war, we adopted a logistical planning system so rigid as to prevent last-moment changes. The answer lies in a concession to our British allies. That rigid system was theirs. And as the XVIII District was mounting both British and American troops, the use of two different systems was impractical. Early in the game the British method of embarkation planning was adopted for both the XVIII and XIX Districts. Later, when the inflexibility of the system became apparent, the XIX District changed to a more elastic method. It could do so, for no British troops were involved there. The British staff work usually did produce more inflexible plans than ours, and those plans were seldom changed to meet changing conditions. Hence, what they gained in superior execution of staff work they sometimes lost in a lack of fluidity to meet unexpected happenings.

Once again history had demonstrated that a battle is won by the commander who makes the least serious mistakes. And the mistake of changing one's mind, dangerous though it might have been, was more than cancelled by the enemy's delay in committing his troops.

Ammunition for Eisenhower's Crusade would never have arrived at forward dumps had not hard-working planning groups carefully plotted the involved course of its movement from depots in England to the hungry guns on the Cotentin Peninsula.

The Month's Comment

Slogans

WORD is out that one Pentagon solution for officer and noncommissioned officer dissatisfactions may be a "bill of rights" that would permanently assert that the so-called benefits and privileges under attack by the selfish, the vicious, or the ignorant, were indeed a part and parcel of the emoluments of the profession.

We are all for anything that will stop the corroding effects of these attacks on professional soldiers, sailors and airmen, but we fear that a "bill of rights" may establish an improper perspective on these matters. We say this because we must insist that commissaries, post exchanges, medical care of dependents, and decent housing are no more "rights," benefits or privileges than the pay check. We ought always to identify them for what they actually are: services furnished by the government in kind rather than in money, because experience and common sense show that it is to the benefit of the government to so furnish them. If a slogan is needed it ought to be based on "The laborer is worthy of his hire," and not on any hint of government largesse.

Decision

ON the eve of the new football season, Cadet Benjamin F. Schemmer of the Military Academy paid us a visit, during which he made a proposal that put the editors to a full test of their editorship. Identifying himself as the head cheerleader of the Corps of Cadets, Mr. Schemmer said that he and his fellows were convinced that the Military Academy's football team would be aroused to herculean heights if the JOURNAL would blatantly announce in black type that the Army should beat Navy come 28 November. Being a most unusual request, the editors said they would give thought to the suggestion.

Obviously there was more here than met the eye. What effect would an Army victory have on Unification? Would NATO, SACLANT and other combined commands be imperilled? Is football over-emphasized? Would it be wise for the editors to put the JOURNAL's neck on the block with a firm stand on such a controversial subject? If Navy beat Army would the Association be harmed by the derision of sailors and marines?

The editors wrestled. They decided.

YEA, ARMY! BEAT NAVY!

CREEPING DANGER

IN digging into the background of the attack of the AMA on military medical service for dependents of servicemen, we were struck by two aspects of the situation that we would like to pass on for you to mull over.

First a historical note. We wager the AMA lobbyists were really surprised and grieved when they discovered that "socialized" medicine had crept into a War Department appropriations act way back in 1884 and stayed there, unseen and boring from within, for sixty-nine years. The malignancy is not as deceptive as you might think; the words are very plain: "That the medical officers of the Army and contract surgeons shall, wherever practicable, attend the families of officers and soldiers free of charge."

In extenuation of those rugged individualists of the 48th Congress, it must be said that they knew exactly what they were doing. Chester A. Arthur, President of the United States, George F. Edmunds of Vermont, President pro tem of the Senate, and John G. Carlisle of Kentucky, Speaker of the House, had never heard of "creeping socialism." Being hard-headed, practical men, not given to succumbing to idealistic and emotional appeals, they and their colleagues adopted the plain language in order that the tiny U.S. Army would be more efficient. They had sense enough to see that a soldier who knew the government would take care of his dependents when they were sick would be a better soldier. The intent of Congress was that simple.

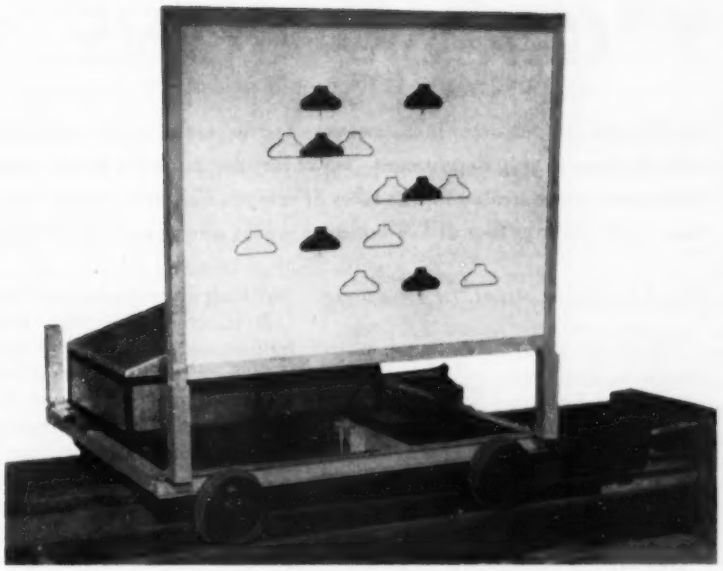
And now, a current aspect. We have noticed with interest that the AMA lobbyists do not attack the quality of military medicine. They call the practice of treating dependents "creeping, socialized medicine" but nowhere do they call it "inferior" medicine. This is significant, because the most cogent and persuasive argument they used a few years ago against the Truman administration's National Health Plan was that it would result in a lowering of the quality of medical service in the country. This argument of the AMA convinced many citizens at the time. That the AMA doesn't use the same argument against the military medical services re-affirms the knowledge that our military medical services are indeed first rate.

The AMA has been pretty violent in its opposition to medical services for dependents of service personnel; indeed one of its resolutions went so far as to propose that military men themselves be required to use civilian doctors and hospitals "whenever and wherever feasible." We doubt if more than a small minority of the AMA membership really favor this. Most of them must know that the causes of the great triumphs of military medicine on the battlefields of World War II and Korea go right back to the military medical schools, training installations, and hospitals in the United States, just as the battlefield victories can be attributed to the military and naval schools and training camps in this country. No better way of destroying military medicine could be devised than to deny medical officers the opportunity to practice, study and experiment in military medical institutions in time of peace. This is so apparent that we can scarcely believe that the AMA is conscious of what it proposes. Can it be that the AMA has such a frantic fear of "socialized" medicine that it cannot see the effects of its crusade? The tragedy is that innocent persons may suffer and the security of the nation may be weakened. It is that serious.

Recoilless Rifle Range Has

TARGET-CAR RAILROAD

That Saves Manpower and Speeds Training



This target-mounted car is ready for its journey across the 75mm recoilless rifle range at Camp Roberts, California. The weapons have a sub-caliber device for firing caliber .30 rounds.

THE target-car railroad pictured on this page has made twenty-four soldiers the victims of technological unemployment, leaving them free to pursue the basic training that is their principal duty. It also is a lot more efficient than the old hand-operated windlass type of moving target because it is easier to control and moves across the range evenly without the fits and starts of a hand-operated device.

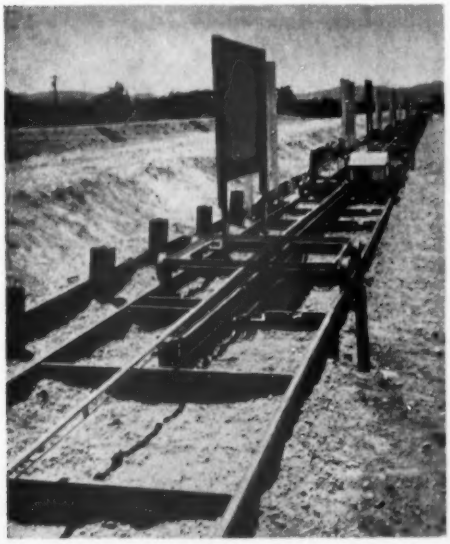
Major General Robert F. Sink, the commander of the 7th Armored Division at Camp Roberts, California, says the target train and track, built by the Division, saves the services of twenty-four windlass operators. He estimates this saving at 192 man-hours every day the recoilless range is in operation.

The electrically-driven train uses a 300-foot track and obtains its power from a boxed trolley wire. The tow car has a one-half horsepower motor, and a reversing transmission which causes the train to change directions when it reaches the end of the track. A throttling valve on the transmission can be set to regulate the speed between ten and 300 feet per minute. It is operated by a switch in the control tower.

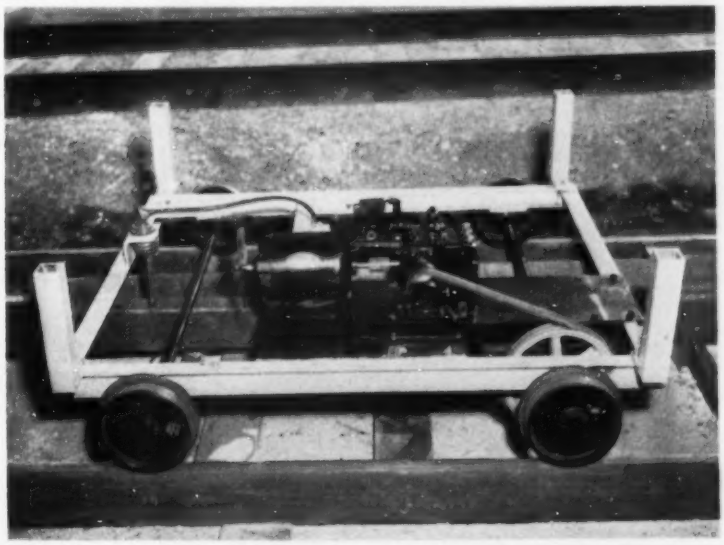
The driving mechanism is equipped with anti-friction bearings and requires only monthly lubrication. The target tow car mechanism, including motor and hydraulic transmission, is enclosed in aluminum housing with a locked service cover.

In field tests the tow car has moved the target train of twelve cars back and forth over the 300-foot course continuously for ten hours.

The Division's G3 staff, Ordnance officers, and instructors of the weapons committee combined their ideas, and designed and built the train target.



The train rolls over 300 feet of rail and then automatically reverses its direction



The electric motor gets its power from a third rail. Speed is uniform, but can be adjusted from 10 to 300 feet per minute.

★ CEREBRATIONS ★

Our literate cocktail-hour tacticians stand to receive as much as $10.00 for their contributions to this department. However, the price for those "dashed off" with scant consideration for the rules of composition and rhetoric will be much less. Hold them to four or five hundred words and type them double-spaced.

Tank Identification for Training

When the 70th Tank Battalion returned to the Island of Hokkaido in Japan from Korea we found that some of the methods used in combat for tank identification could not be used in training because our training area was fairly even, rolling ground with very few OPs and vantage points.

OPs are not so necessary when training sections or platoons where short distances and limited objectives are used, but in the training of units of company and battalion size OPs are needed for proper control of each platoon and company. Therefore, we resorted to the use of light aircraft and towers for OPs. Then tank identification from the air and long distances became the problem.

It is, of course, quite necessary in training and combat to be able to identify each individual tank as to platoon and company, so as to be sure they are in the right position and carrying out their part of the attack or problem.

Many systems of identification have been suggested but we believe the system we are using is simple, foolproof and provides the maximum possibilities for the training of tank crew and officers.

We tried to keep our marking system simple so all men could understand it. Also a simple system can be passed on rapidly to infantry in tank-infantry tactics and problems.

The identifying designs are painted on each side of the tank turret and are a circle sixteen inches in diameter with these designs:

Identification of companies is by color: Red for Able Company, Blue for Baker Company, Yellow for Charlie Company and Green for H & S Company.

Identification of platoon within a company is by a design on a white circle background: Circle for 1st Platoon, Cross for 2d Platoon, Triangle for 3d Platoon, and Diamond for 4th Platoon.

Identification of tanks in each platoon is by number in the middle of the design, 1, 2, 3, 4, and 5 being the number of the tank in the platoon.

The company commander's tank is marked with a circle of appropriate color *without a number.*

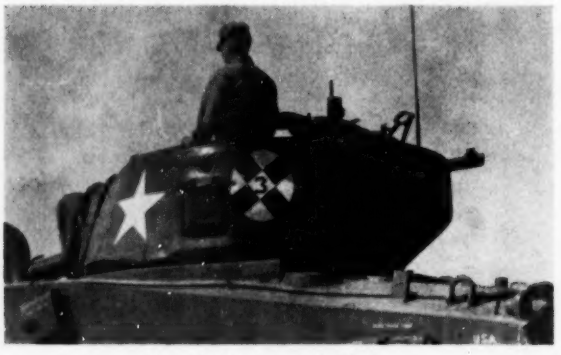
The company executive officer's tank is marked with a cross, without a number.

These designs and colors can be seen from long distances and picked up with field glasses from liaison aircraft, and are useful to the company commander, the platoon leader and the battalion commander in controlling units. The commander knows immediately which tank is straggling or out of position and can change the situation by radio message.

← **The second tank, 1st Platoon. Design painted on commander's hatch indicates the tank belongs to the first section of the platoon; if it was painted on the loader's hatch it would indicate the second section.**

The fifth tank, 4th Platoon.

The third tank, 3d Platoon.



The third tank, 2d Platoon.

For better control from the air, hatches are painted on the inside with the same design, or the designation of a section within a platoon. If the tank commander's hatch is painted it indicates a first section tank in the platoon. If the loader's hatch is painted it indicates a second section tank within the platoon.

In combat the hatches can be closed or the markings covered to prevent identification by the enemy.

This system of identification has been tested by the 70th Tank Battalion in training. It has facilitated control on RCT problems and BCT tests. Not only does it make control easier for the tank unit commander, but it also aids the infantry commander in rapid identification of the specific tanks which are to support him. Dust and mud rapidly obscure company numbers on the hull, but the identification markings on the turret are always clear.

LT. COL. VICTOR B. FOX
Armor

Economical Fire Power

The Congressional investigation of the ammunition situation raised two questions of significance to the military services.

(1) Can the policy of lavish expenditure of artillery ammunition bankrupt the nation?

(2) Do we, by this policy, coddle our infantrymen and sap their will to fight?

The problems raised by these questions have several parts: statistical, psychological, and national survival. I am going to confine myself to the statistical.

The magnitude of the problem is apparent when we are told that in two months the 10th Field Artillery Battalion, 3d Infantry Division, fired more than a million rounds of ammunition, valued at approximately four and one-half million dollars! (This is based on the cost of a complete 105mm howitzer shell of $48, and not considering the cost to transport it to Korea.)

On the morning of the fourth day of a heavy Chinese assault on the 3d Division a lieutenant colonel said to me: "Young, last night the 10th Field fired approximately 2,200 rounds in support of one company. Do you realize that this was almost $100,000 worth of ammunition? Can you justify this expenditure of the taxpayer's money?"

We sat down with pencil and paper and discussed the problem from a strictly statistical point of view *(see chart)*. In the action, B Company held the hill with a loss of only two killed and six wounded. The figures concerning the result if B Company had been driven from the hill were based on experiences in Korea in cases where men were forced to leave their holes and fight the Chinese hordes above ground during withdrawal. The cost of each individual killed in action was based merely on the flat $10,000 indemnity which the government

(Continued on page 39)

The Cost of Fire Power

Under a battalion size CCF attack:

"B" Co Holds Hill —
Result: 2 Killed In Action
6 Wounded In Action

"B" Co Is Driven From Hill —
Result: 12 Killed In Action
5 Missing In Action
36 Wounded In Action

COST:

Killed In Action:	12-2 X	$10,000 =	$100,000
Missing In Action:	5 X	10,000 =	50,000
Wounded In Action:	36-6 X	5,000 =	150,000
Partial Cost of Defeat			$300,000

Cost of One 105mm Shell: $48.00* 48 / 300,000 = **6,250 shells**

***Complete Round**

The Month's News

NCO Grade Structure

The Army, never certain about what to call and how to rate its needed specialists, is veering back towards pre-World War II practice and is planning to call its specialists "Specialists."

Revision of T/O&Es is in the works and the new structure will probably go into effect next year. It will separate all present noncoms who have command responsibilities from their specialist counterparts. Pay grades will remain the same and it is possible that the two top grades of specialists will be entitled to the respect and privileges of noncommissioned officers.

These are the new ranks:

Pay Grade	*NCO Grade*	*Specialist Grade*
E-7	M/Sgt.	Senior Specialist
E-6	Sfc.	First Class Specialist
E-5	Sgt.	Second Class Specialist
E-4	Cpl.	Third Class Specialist

The Army has been carrying approximately 62 percent of its enlisted strength in the NCO category. Under the new plan, only 18 percent of the enlisted personnel will be noncoms.

Designs for specialist rates are being studied. Six have been approved by the Heraldic Branch, OQMG, and QM procurement officials.

It is estimated it will take six months from the time of the design's approval to the time the stripes reach the field, but interim arrangements are being worked out.

The special regulation governing the sweeping change is expected to be in G-1 hands by Oct. 15 for staffing.

Here is how the new system will work out percentagewise:

Pay Grade	*NCO* %	*Specialist* %
E-7	95	5
E-6	70	30
E-5	25	75
E-4	5	95

In Short

Gen. Charles L. Bolte announced that more family housing will be constructed in Europe for married soldiers. . . . There's less paper work in getting advance travel pay since the Finance Corps has eliminated the need for presentation of vouchers in advance. . . . The tank modification depot under construction at Chrysler's Delaware Tank Plant will be completed and used for storage of machine tools.

The Month's Reading

Paragraphs of significance gleaned from current books, magazines and speeches

America in Europe

THEODORE H. WHITE
Fire in the Ashes
William Sloane Associates, 1953

. . . America is finally more intimately involved in European affairs than ever before in our national history. This is not a theoretical involvement, either. A quarter of a million American soldiers, drafted from home in time of peace, are sprawled across Europe in bivouac and barrack. One hundred thousand of the finest men in America's army are strung out between the Rhine and the Thuringian ridges, on the alert day and night. They sleep with combat packs beside them, helmets by their pillows, rifles and ammunition stacked in company quarters, their tanks, guns, trucks, ammunition carriers ready to roll on an hour's notice. Each of them knows what he must do—what bridges his company must blow up over what strange foreign streams as he falls back, what roadblocks must go in where, what ridge of what strange German *kreis* will probably hold his foxhole. Even in sleep, his ear is cocked for the sound of the siren that tells him Europe's peace is disturbed and he must fight.

These men are the flesh of America's pledge that Europe's destiny is ours, the sacrament of the great structure of diplomacy that guards the peace of the world. If a Russian soldier moves to cross the border of Norway, if a Bulgarian fires a shot across the borders of Turkey, if an East German platoon raids a county in West Germany, then every one of these men is committed to battle. With them are committed not only those who dwell in Western Europe, but 150,000,000 Americans wherever they sleep, or work, or play between the Atlantic and Pacific. A diplomatic revolution has twined them all together in indissoluble alliance.

Loyalty, Cliques, Criticism

GENERAL MATTHEW B. RIDGWAY
At his first staff conference after becoming Chief of Staff

Loyalty. The necessity for this basic military essential is so clear that you scarcely ever hear it mentioned. Yet it is not automatic, and it is not always present—up, down, and laterally in equal degree—as it must be. This is not so much through design as through failure to cultivate it and to recognize its eternal importance. . . .

I shall expect the officers of this staff to present their own honest views, fearlessly, forthrightly, but objectively in the light of their own conclusions as to what best serves the Army's over-all interests. The most dangerous adviser to have around is a "yes man," and the most useless is one who thinks of self instead of service. I shall also expect at all levels, that having expressed his opinions and having heard the decision, his entire support will then be put behind the execution of that decision, regardless of what his views had been.

Cliques. I have not the slightest knowledge of the existence of any cliques within this headquarters. I pray there are none, but I want to say in unequivocal terms that I will not tolerate such vicious elements if it is within my power to eliminate them.

Criticism. Indulgence in criticism is an ever-present temptation. If yielded to it can quickly become a vice difficult to break. In the civilian field it is of lesser importance. In military organizations it is of vital importance. . . . I am not talking of honest differences of opinion, least of all at those times when issues are being debated. I am talking of the practice of vicious "crabbing" about the official actions of proper authority.

A Kill in MIG Alley

COLONEL HARRISON R. THYNG
Air University Quarterly Review
Summer 1953

For you [an F-86 pilot] combat has become an individual "dogfight." Flight integrity has been lost, but your wing man is still with you, widely separated but close enough for you to know that you are covered. Suddenly you go into a steep turn. Your Mach drops off. The MIG turns with you, and you let him gradually creep up and outturn you. At the critical moment you reverse your turn. The hydraulic controls work beautifully. The MIG cannot turn as readily as you and is slung out to the side. When you pop your speed brakes, the MIG flashes by you. Quickly closing the brakes, you slide onto his tail and hammer him with your "50s." Pieces fly off the MIG, but he won't burn or explode at that high altitude. He twists and turns and attempts to dive away, but you will not be denied. Your "50s" have hit him in the engine and slowed him up enough so that he cannot get away from you. His canopy suddenly blows and the pilot catapults out, barely missing your airplane. Now your wing man is whooping it up over the radio, and you flash for home very low on fuel. At this point your engine is running very rough. Parts of the ripped MIG have been sucked into your engine scoop, and the possibility of its flaming out is very likely. Desperately climbing for altitude you finally reach forty thousand feet. With home base now but eighty miles away, you can lean back and sigh with relief for you know you can glide your ship back and land, gear down, even if your engine quits right now. . . .

CEREBRATIONS

(Continued from page 37)

must pay, without considering the cost of his training, transportation to the battlefield or the grave registration cost. Similarly, the cost of each man missing in action was taken as ten thousand dollars which surely would be the least amount which the government would be expected to spend on such casualties. We arbitrarily assigned a cost of $5,000 to each wounded soldier.

From this you can see that we could, speaking strictly from a cold-blooded statistical point of view, have justified the expenditure of over 6,250 shells or almost three times the number we actually fired.

But here, the Colonel wasn't satisfied: "This is all very well and true, but the real difficulty there was that some of the infantrymen did not fire their weapons. We coddled them with expensive artillery fire."

In my reply I pointed out that in order to get the infantry weapons within range of the enemy in eighty-five per cent of the Korean terrain, it is necessary to leave the roads and manhandle the weapons and ammunition up steep slopes. Hence, the value of the ammunition increases until the infantryman treats it like gold and expends it most reluctantly. But artillery is usually able to go into position in the vicinity of roads. Though the ammunition turn-around during this April battle was thirty-eight miles, we were able to bring the ammunition from the dumps to the battlefield near the 38th parallel in one truck without transloading. I personally felt that the infantrymen's policy of shooting artillery ammunition first was correct. It placed the strain on our trucks and guns, rather than on our meager manpower or the hard-pressed Korean "Chiggy" bearers!

This makes sense to me. Should we not put the maximum stress and strain where it can best be borne—upon the productive resources of the United States; upon the rail, truck, and ocean transportation facilities of our nation? This policy of spending shells and saving lives gives us maximum use of our meager manpower resources and gives the individual rifleman the best chance for victory and survival.

I hope it should be clear now that we did not "coddle" our infantrymen in Korea and that the artillery ammunition policies of the Eighth Army under General Van Fleet represented a most important signpost.

MAJOR MASON J. YOUNG, JR.
Artillery

Irons in the Fire

Dock Barge

A new dock barge *(cut below)* designed for the Transportation Corps by the DeLong Engineering and Construction Company can be floated to job site—sometimes thousands of miles away. They carry the big tubes, or caissons, and the air jacks seen here around each caisson at deck level. The jacks pump the hull up the caisson to pier height, where it is secured and ready to serve as a dock. The jacks are built in two sections, the upper fastened to the deck by tie-rods. Each half is lined with rubber tire-like tubes, with similar tubes circling the caisson between the sections. The upper and lower halves function similarly to the arms and legs of a boy climbing a tree. At a position six inches above the deck, tubes in the lower half are inflated and it grips the caisson. Then air is pumped into the tubes between the sections. This forces the top up six inches. The top tubes are inflated, clamping it to the caisson and holding the barge at that level while the lower grip is released as its tubes are deflated. The center tubes are then deflated and the retraction pulls the lower half back up to meet the top where it is again clamped and the operation is repeated. A highly successful DeLong Dock is in operation supporting construction work at the Air Force's base at Thule, Greenland. Two are en route to Alaska to replace docks that were destroyed in a fire. The one pictured here was built by U. S. Steel's Orange, Texas, fabricating center.

Air Force Rescue Craft

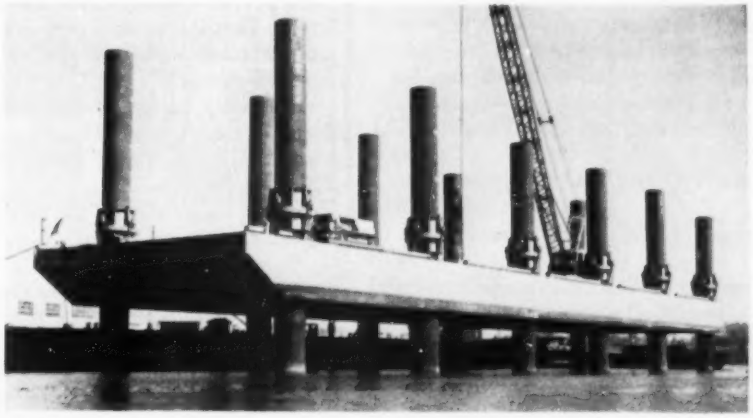
A 94-foot experimental rescue craft, recently completed in Detroit, has three 1,500 horsepower V-12 Packard gasoline engine. The craft is 94′ x 22′ 4″ x 5′ 8″. It will accommodate two officers and 14 men and has space for 12 litters in the sick bay. Communications equipment includes radar and radio equipment. The galley has electrical refrigeration, range and deep freeze. A transom gate 12 feet wide is fitted with a guard the width of the gate to prevent anyone from being swept under the gate and as an aid in boarding.

Aviator's Knee Board

This pilot's knee board for use in small cockpits may be of interest to Army aviators. The board is equipped with two pencil storage compartments, a coil spring pencil rest, and a built-in pencil sharpener. Chart cards are held firmly in place by an upper and a lower spring clip. The board is made of solid black molded material and although it weighs but nine ounces, it is strong, sturdy, and extremely durable. An adjustable quick release strap holds the board securely to the leg.

Liaison Aerial Camera

A new aerial camera designed for front-line aerial reconnaissance in light liaison aircraft has been developed by the Air Force's Air Research and Development Command and is under Army test. Using fifty-foot rolls of five-inch film, the hand-held Fairchild K-44 camera uses six- or twelve-inch lens.



CAREER MANAGEMENT AND YOUR FUTURE

THIS is the third in the series of articles on Career Management and how it works. If you have any comment or questions on this series please feel entirely free to write the editors or Career Management Division.

Selection for Overseas Service

Officers ask: "What about my overseas service? I've spent forty-eight months overseas since World War II and returned from Korea in December 1951 after fourteen months of combat duty. Today I received orders for shipment to Europe. I know there are other officers of my grade who have been enjoying the same ZI assignment for years."

THE Army's fundamental policy in making overseas assignment is that all officers will share equitably in foreign service. But some deviations are necessary. Certain CONUS assignments require either specialized training and indoctrination, a relatively long period of on-the-job familiarization, or extended continuity of effort. Examples of such assignments are: Special projects, technical specialization, high level staff positions, civilian component duty, service school instructors and Army Field Forces boards. It would not be efficient or economical to assign officers to these duties for relatively short periods of time. Therefore, such assignments are "stabilized." That is, the man in a stabilized spot completes a full assignment even though by length of time since his last overseas duty he may be immediately due for foreign service. He will go overseas when his "stabilized" tour is ended. This situation is under study in an effort to provide longer stays in the CONUS for a greater number of officers.

Many officers ask: "Is there really a system of selection?"

EACH career branch maintains a vulnerability roster, divided by grade, from which selections are made for foreign service. Each grade is arranged according to the actual or adjusted date of arrival from foreign service and those officers with the earliest date of return are listed first.

Before an officer is selected for foreign service, however, he must be eligible under established criteria and POR qualified in accordance with the minimum training requirements contained in paragraph 17, SR 600-175-20. In the latter instance, the Chief, Career Management Division, has authority to waive certain of these minimum training requirements. Current eligibility criteria are summarized as follows:

Nine months minimum period of active service remaining as of scheduled date of arrival at the POE or APC.

Officers must have twelve months or more remaining service before reaching statutory retirement age.

Officers and warrant officers who return from any overseas theater, except AFFE, will not be sent overseas again until they have served in CONUS or territory of residence at least six months. Those from AFFE will not be sent overseas again until they have served at least nine months.

There is a possibility of change in the current regulations to increase the minimum tour in the CONUS to twelve months.

The main considerations in selection for overseas shipment are grade, MOS, date of return from last overseas assignment, theater from which returned, and existing overseas requirements.

An officer writes: "I'm a commander and want troop duty. How do they

pick MOS and will any attention be paid to it when I get overseas?"

THE MOS assigned in overseas orders is understandably of importance and concern to each individual and may, in some cases, not be in line with the one he wants. This is necessary to meet the requirements of the overseas commander. Since 1950 the use of the directed and recommended MOS has been suspended and no assurance can be given that the MOS which appears in orders will be that in which the individual will serve after arrival in the overseas theater. However, when selection is made in Career Management Division, a careful evaluation of each officer's abilities, skills, and physical capabilities is made so that he can be assigned to a particular position which uses his qualifications to the maximum extent.

Another officer asks: *"Why am I ordered overseas when other officers who returned with me from the last overseas assignment are not on orders and not stabilized?"*

OVERSEAS criteria differ by branch, as well as by grade, and it is entirely possible that an infantry or artillery officer who returned from foreign service during June 1952 might be selected for a new foreign service tour before a quartermaster or ordnance officer who returned from his last assignment during 1951. Criteria are established in each branch and service and are based entirely on overseas demand.

Korea has had a decided influence on criteria. It is Army policy to give every possible officer an opportunity to serve in Korea in order to avoid, or at least delay, sending individuals back to Korea for the second time. Therefore, in effect, two pools of officers have been established.

Those officers who have served a tour in Korea subsequent to 25 June 1950 (this pool is used to fill other theater requirements).

Officers without Korean combat experience are used to meet the Far East requirements. This explains why officers who have served one tour in AFFE before 25 June 1950, or even in Japan or Okinawa since 25 June 1950, are being ordered back for another tour.

This system is fair. In some cases, however, it will result in overseas movement of officers who are less vulnerable for overseas assignment than are other officers. A returnee from a noncombatant theater may expect less time in CONUS assignments than may returnees from a combatant theater. This results from the heavier officer requirements of the combatant theater and from the policy of not returning an officer to a combatant theater. Exceptions to this policy will be made because of compassionate reasons and interests of the service but each case will be treated on a basis of individual merit. Officers may anticipate that the Korean truce will affect requirements of AFFE to the extent that returnees from noncombatant theaters will have more stability in CONUS than that experienced since 25 June 1950.

A worried officer writes: *"We are going to have an increase in our family. Will they let me stay until the baby is born?"*

NORMALLY no; however, if an overseas assignment will provide undue hardship on an officer due to illness in the family, financial difficulty, or complicated pregnancy, he may make application, through channels, for deferment. Various periods of deferment can be requested. CONUS army commanders have authority to approve deferments for ninety days or less and requests in excess of ninety days are forwarded to the Department of the Army for approval. The Adjutant General handles all such applications and all receive uniform treatment. Each case is forwarded to the pertinent career branch for final decision. This system of centralized processing insures fair and impartial handling of cases submitted by officers from different branches of the service.

An officer writes: *"I'd certainly like to go back to Trieste."*

AN officer may volunteer for foreign service by writing through channels (See AR 600-175), and may state his preference of station. Insofar as practicable, assignments will be made according to stated preferences. However, it would be patently unfair to assign officers repeatedly to the most desirable area simply on the basis of individual preference. Here again the general policy of equitable foreign service must be tempered by the needs of the Army and justice to the individual. Officers on the volunteer list who are not assigned according to their choice before they become available for foreign service in their normal turn, automatically lose their volunteer status and are placed on the regular roster for an overseas assignment.

Another officer says: *"I speak Spanish and desire an assignment in the attaché system or to a mission."*

REQUIREMENTS for officers in the attaché system are published periodically in Department of the Army circulars. These assignments are highly competitive and are made on an individual basis. Officers must apply in writing (see SR 600-147-1). Assignments to Military Missions and Military Assistance Advisory Groups are made as vacancies occur and according to qualifications.

Another officer: *"When can I expect my next overseas assignment?"*

CAREER Management Division recognizes the undesirable effects of frequent assignment changes and constantly strives to improve the situation so that each officer can be assured of more stability in CONUS assignments. It must be emphasized, however, that Career Management Division has direct assignment control over combat arms officers only.

The chiefs of the technical and administrative services control the assignments of their officers. Each branch and service, however, is guided by Department of the Army assignment policies.

Specific queries or requests concerning assignments by officers in those arms and branches should be addressed to the Chiefs of the technical and administrative services. Officers of the combat arms should address the Chief of the (Infantry, Artillery or Armor) Branch, Career Management Division, TAGO, Washington 25, D. C.

The present CMD branch chiefs are:

Infantry: Colonel Richard P. Ovenshine
Artillery: Colonel Darwin D. Martin
Armor: Colonel George G. Lowe

[Next month: *Assignment of officers returning from overseas*]

The Month's Books

- *Gen. Krueger's Story of the Sixth Army*
- *Navy version of "Smith vs. Smith"*
- *Retirement Is a Journey*
- *Biography of Phil Sheridan*

SOLDIERLY STORY

FROM DOWN UNDER TO NIPPON: The Story of Sixth Army in World War II. By General Walter Krueger, United States Army, Retired. Combat Forces Press, 1953. 408 Pages; Index; Maps; Illustrated; $6.50.

Before considering General Krueger's history of the Sixth Army, it may be of interest to look at the current score as to the publication of the memoirs of the United States Army commanders who were in the top positions at the end of World War II. The Chief of Staff, General of the Army Marshall, has not published a book and says that he will not. At the theater-commander level, the score is a tie with a "yes" for Eisenhower and a "no" for MacArthur. Of the army group commanders, Generals Bradley and Clark have had their say; General Devers is reported to have declined to write his story. The commanders of overseas armies, including General Krueger, score, in one form or another, five affirmatives; Patton (Third Army), Krueger (Sixth), Eichelberger (Eighth), Stilwell (Tenth), and Brereton (First Allied Airborne). The five who have not published memoirs are Hodges (First), Truscott (Fifth), Patch (Seventh), Simpson (Ninth) and Gerow (Fifteenth). Of these commanders, General Patch is dead.

General Krueger might well question that he should be included among those who have written their memoirs. He states, in his introduction, that "instead of publishing my personal reminiscences of the events in which I participated, I decided to write the story of the Sixth Army." The book is, he says, "an unadorned narrative" of the long struggle of the Sixth Army against fanatical resistance as it fought its way from Australia to Japan. And that is exactly what it is. As a factual record of the operations of a major military unit the volume has rarely, if ever, been equalled.

There can be no question but that the author has done well what he set out to do. Incidentally, the book is the last volume, except for a forthcoming history of the 32d Infantry Division, to have the advantage of the expert editing of the late Colonel Joseph I. Greene, and it is physically an attractive book in spite of the handicap of rather small type size, presumably made necessary by costs.

The regrettable thing is that General Krueger stuck to his self-imposed mission in such a soldierly way. Rarely does he include anything which makes his officers and men come to life or gives the reader an insight into the personalities of the well-known officers in his story. Not only do General MacArthur and other senior commanders get simple factual treatment as to what they ordered or did, but so do two officers who served successively as his chief of staff when he was in command of the Third Army in the States. One was Colonel Dwight D. Eisenhower and the other a Lieutenant Colonel Gruenther. Admittedly, they never served in the Sixth Army, but the reader would like to hear a little more about them as they moved into assignments which led to general officer rank.

Neither is General Krueger quite fair to himself in not giving the reader a little more of his own background. He does say that "being practically sixty-two" early in January of 1943, the orders he received at that time to go on active overseas service were unexpected. He does say that he had forty-four years of service behind him both as a commander and as a staff officer. But he does not say that he had been born in Germany, and served over two years as a private and noncommissioned officer in the 12th Infantry before he was commissioned from the ranks in 1901. Nor does he mention that he was a graduate, in spite of the handicaps under which he must have labored in achieving selection as a student, of the Army War College and the Naval War College.

Veterans of the Sixth Army's operations in New Guinea, Morotai, Leyte, Mindoro, and Luzon will find this book to be a valuable record of their experiences and there is much of professional value in General Krueger's statements of his reasons for decisions, and in his comments on staff procedures. He writes with clarity and no evasions. For example: "All clerical work at my headquarters was performed by warrant officers and enlisted men. I invariably declined the offers repeatedly made by USAFFE to furnish Wacs to my headquarters. Without disparaging the value of Wacs in rear areas, I felt that their use at my headquarters was not warranted under the conditions under which we had to operate. I also felt that, in any case, the labor entailed in providing accommodations for them would have been out of all proportion to their usefulness as clerks."

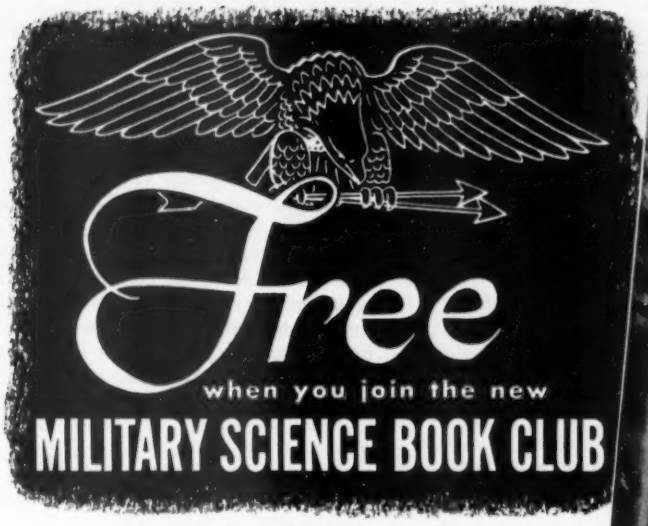
General Krueger emphasizes the unusual conditions which prevailed in the Southwest Pacific Area. Except to a limited extent on Luzon, his army never fought with roads and railroads behind it as a line of communications for supply, movement of reserves, replacements, and evacuation. The island-hopping also resulted in each major headquarters being echeloned in great depth with resultant complications in handling staff matters ordinarily resolved by conferences and personal contacts. It does seem that headquarters organizations and channels of command were needlessly complicated by the practice of setting up various task force headquarters instead of giving a particular mission to an established Table of Organization headquarters and attaching or detaching troops from the command to fit the situation. General Krueger speculates on this matter, and indicates that at army level it was sometimes a device to permit putting of the task force directly under the operational control of General MacArthur, thus obviating the placing of the army under General Blamey of the Australian Army who was the CG, Allied Land Forces. Actually, most of the Sixth Army missions were conducted by General Krueger as CG, Alamo Force. "The reasons," says Krueger, "for creating Alamo Force and having it, rather than Sixth Army, conduct operations, were not divulged to me." At lower levels, in any case, there seems to have been less reason for the creation of task force headquarters in the manner which was customary throughout the Southwest Pacific campaign.

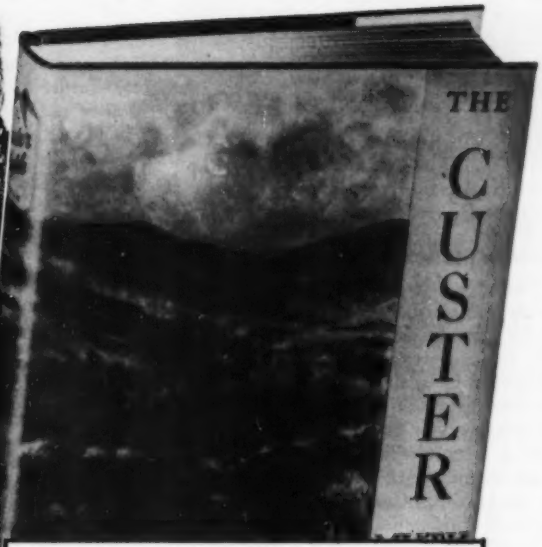
Civilian reviewers have occasionally been hypercritical of some senior officers' memoirs and emphasized what they regarded as the advantage taken of hindsight to justify decisions or excuse errors. They will find nothing of that sort in this book. General Krueger has told a straightforward story of what his command did, with no excuses. Take it or leave it.—MAJ. GEN. H. W. BLAKELEY

FINEST DIPLOMATIC HISTORY OF 1940-41

THE UNDECLARED WAR 1940-41: The World Crisis and American Foreign Policy. By William L. Langer and S. Everett Gleason. Harper, New York, 1953. 963 Pages; $10.00.

For some years William L. Langer, professor of history at Harvard, and S. Everett Gleason of Amherst, now with the National Security Council, have been working on a study of American foreign policy in the period before and during World War II.





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by COLONEL W. A. GRAHAM, USA, Retired

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Last year they published a massive volume entitled: *The Challenge to Isolationism*, which covered the period from Roosevelt's famous "quarantine speech" in 1937 to the fall of France in 1940. That volume was by far the most effective answer ever made to the Beard, Morgenstern, Tansill, Barnes school of writers who have tried to convince Americans that President Roosevelt's foreign policy was something developed "in secret" and sprung upon the nation by trickery.

The present equally substantial volume carries the story from the fall of France to the Japanese attack on Pearl Harbor. Like its predecessor, this book is in a class by itself as far as the width of its coverage, the thoroughness of its documentation, and the objectivity of its authors are concerned. This is another way of saying that this is about the finest piece of writing in the field of recent diplomatic history turned out anywhere. Its appearance is a real credit to American scholarship and to the American Council on Foreign Relations which financed the effort.

In normal times it would not be necessary to produce a 900 page book in order to prove that the President of the United States in 1941 was not a complete scoundrel. But partisanship and later-day isolationism have been so intense about Mr. Roosevelt's administration, that this is essentially the case regarding the events of 1941. It is therefore a reassuring thing to find these two distinguished scholars concluding that whatever the record may show it "provides no evidence whatsoever to support the thesis that the President or any other responsible American official courted a Japanese attack on the Pearl Harbor base in order to enable them to lead the country into the European war by the back door."

A careful reading of this book enables one to draw a new picture of the all around effectiveness of the American diplomatic service in the year 1940-41. Despite the fact that we were surprised in 1941 at Pearl Harbor, it should be pointed out that all the great powers were surprised by something in that year. In general it would seem that the State Department acquired more accurate information about what was going on in the world, including what went on behind the Axis battle fronts, than British and Russian foreign offices, and that aside from making a tragic mistake about where the Japanese blow was to fall, it had amazingly good information on what they were doing. The stereotype of the American foreign service officer as a kind of babe-in-the-woods dies hard in certain quarters, but a reading of this volume should convince any fair-minded person that this image did not fit the situation in 1940-41. One can only hope that our harassed and much-maligned foreign service officers are doing equally well today. This book is not recommended for light reading but is indispensable for a knowledge of what preceded our entrance into World War II.—H. A. DeWeerd.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

LINES FROM A NEW BOOK

It takes no great exercise of imagination to visualize little Phil Sheridan as an officer of the United States Army today; he would reorient himself, one feels, in a few weeks. It is much more difficult to imagine Robert E. Lee jumping out of a transport plane at the head of a parachute division, Sherman's angry face popping out of a tank, Jeb Stuart without braid or fancy feathers leading a heavy bomber strike from an Okinawa airfield, or a beardless George H. Thomas peering down from an L-5 observation plane over an infantry division on maneuvers.

Sheridan the Inevitable
Richard O'Connor

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NAVY WAR—VOLUME VIII

NEW GUINEA AND THE MARIANAS: March 1944-August 1944. Volume VIII of the History of United States Naval Operations in World War II. By Samuel Eliot Morison. Little, Brown and Company. 458 Pages; Illustrated; Maps; Index; $6.00.

Samuel Eliot Morison, Jonathan Trumbull Professor of American History at Harvard and Rear Admiral, USNR, holds course and speed as he finishes another of his excellent volumes (fourteen are planned) on the history of the United States Navy in World War II.

From the Army viewpoint the major interest in the current volume lies with Morison's version of the Smith *versus* Smith controversy involving the 27th Infantry Division under Maj. Gen. Ralph C. Smith and the acts and opinions of Lt. Gen. H. M. ("Howling Mad") Smith, USMC.

There is also mention of the Army's I, XI, and XXIV Corps, and of the 6th, 24th, 32d, 41st, 43d, and 77th Infantry Divisions, and, of course, much about General MacArthur. And any military man—soldier, sailor, or airman—will find interest in the story of the Battle of the Philippine Sea, the greatest carrier battle of the war. Air Force men will not, however, be likely to agree with Admiral Morison's verdict: "The battle . . . illustrates the inadequacy of land-based aircraft, even when Navy-trained, as compared with carrier-based bombing."

Admiral Morison is emphatic about the Smith *versus* Smith controversy: "This writer entertains no doubt that General Holland Smith was right. The real trouble with the 27th Division was that it had never been overhauled and the incompetent and overage company commanders relieved. It should never have been included in the same attack force with Marines." This opinion goes along with the Marine General Smith's dictum in his book *Coral and Brass:* "The trouble with Twenty-seventh Division was, if I may coin a word, 'militiaitis.' . . . Employer-noncommissioned officers in the 27th were sometimes commanded, if that is the word, by employee-officers." This reviewer doubts that civil life relationships had much weight during June of 1944 in a division which had been called to active duty in October of 1940. The whole subject is covered in detail in *The 27th Infantry Division in World War II* by Captain Edmund G. Love. Captain Love's opinions are quite different from those of the writers quoted above.

It is pertinent perhaps to quote the conclusions of the Army board which investigated the affair: (1) Holland Smith had full authority to relieve Ralph Smith from command; (2) Holland Smith was not fully informed regarding conditions in the zone of the 27th Division when he issued orders relieving Ralph Smith; (3) The relief of Ralph Smith was not justified by facts; (4) Ralph Smith's official record or future commands should not be adversely affected by his relief.

It is evident that the affair was truly controversial and that Marine and Army prejudices will always enter into its discussion, but the Marine Smith does pay the Army Smith some tributes in his book: "I always regarded Ralph Smith as a likable and professionally knowledgeable man . . . his testimony [at the Army investigation] was the most fair-minded of the lot . . . adversity, I think became him well."

It is a fact, completely unrelated to the controversy, that Ralph Smith should never have been sent to the Pacific. He was among the best informed of all Army officers on matters relating to western Europe. He was a graduate of the French *École Supérieure de Guerre*, had served as a military attaché in Europe, and had had considerable intelligence experience of European armies. Why he should have been used to command a division in the Pacific at the exact time of the Normandy invasion might with reason puzzle either a marine or a soldier.

And regretfully we have to add Admiral Morison to our list of people who think that "shrapnel" means shell fragments.—Maj. Gen. H. W. Blakeley, Retired.

AFTER 30 YEARS—THIS

THE RETIREMENT HANDBOOK: A Complete Planning Guide to Your Future. By Joseph C. Buckley. Harper & Brothers, 1953. 340 Pages; $3.95.

"Retirement," says Mr. Buckley, "approached from the constructive side, is based on the concept that people retire *to* a new way of living rather than *from* the present way of life. Retirement is a journey, not a destination."

The author might have gone further and been more emphatic to point out that retirement should be, particularly for members of the armed forces, a pleasant and even profitable journey.

Mr. Buckley aims his book not only at relatively young people who are interested in long-range planning for both financial and psychological security, but also at those

who are retired or about to retire, and even to the family of a prospective "retiree"—a new word, incidentally, to this reviewer.

"The harvest years" is the term the author uses, with some justification, to the years spent in retirement. To assure the "retiree" that those years are really a period of satisfaction, Mr. Buckley discusses health and how to grow old happily, income planning for financing retirement living, leisure-time activities with a view to their value in later years, the often disastrous projects of after-retirement running of a small business or a farm, the importance of a good climate, and an analysis of some of the conditions existing in such popular areas as California, Florida, Georgia, North Carolina, South Carolina, the Gulf Coast, and the Southwest. The book, written primarily for civilians, ignores the one outstanding advantage of Washington as a place for retirement of military people: you'll never have a dull moment.

This is a good book. Its greatest value would be for some thirty-five-year-old officer or career noncom. But perhaps it is fortunate that at thirty-five you expect to live forever, and to have no problems in your old age.—H.W.B.

USEFUL U.S. HISTORY

THE UNITED STATES OF AMERICA: A History. By Henry Bamford Parkes. Alfred A. Knopf, New York, 1953. 773 Pages; Illustrated; Index; $7.50.

American history made easy, understandable, and useful to the American people is Mr. Parkes's admirable achievement in this book. It is made easy through a felicitous literary style that avoids dullness and adheres to accuracy and objectivity. It is history that is understandable because its clarity and vigorous movement carry the reader from the first colonial settlements to President Eisenhower's inauguration, with a remarkable degree of unity and proportion. It is history that is all-embracing, for Mr. Parkes agrees with Voltaire that the social, moral and artistic aspects of the past must be considered with the political, economic and military events if the past is to be understood.

Undoubtedly the author's search for universality will not satisfy the specialist. For example, a student of military or economic history will inevitably complain of oversimplification in his specialty. On the other hand this bulky, but easy to handle volume will illuminate the relationship of what he knows best to all the other aspects of history with which he is less familiar. Without undue neglect of our political history, of military and naval policy, or of the military campaigns of our wars, Mr. Parkes excels in defining "the movement of beliefs and ideas, and the expression of the American spirit in literature and the arts."

The numerous maps and illustrations are exceptionally helpful. Anyone desiring a single volume general history of the United States that is politically impartial, well balanced in space and emphasis allotted to every phase of our past, cannot do better than to add this book to his library.—Brig. Gen. Donald Armstrong.

GLOUCESTERS IN KOREA

NOW THRIVE THE ARMOURERS. By Robert O. Holles. British Book Centre, 1953. 176 Pages; Illustrated; Map; $2.75.

This interesting little book concerns the battle experiences of a British platoon from the 1st Battalion, The Gloucestershire Regiment, a unit of the 29th Brigade. Lieutenant Parkington (a fictitious name, like all others in the book) landed his platoon in Korea in November 1950. They fought up to Hills 327 and 235 and wound up in the Imjin battle, after which they were rotated home following severe losses in casualties and prisoners. The Gloucesters are a stout outfit, as many Americans found. They fought and lived close by our own troops, and except for certain differences in expression, this story might well have been told of American troops. Sergeant Holles, a Gloucestershire regular and Imjin veteran, writes a straight story of what the infantryman's war was like in Korea.—N.J.A.

SOUNDLY PARTISAN BIOGRAPHY

SHERIDAN THE INEVITABLE. By Richard O'Connor. The Bobbs-Merrill Company, Inc. 400 Pages; Illustrated; $4.50.

In this biography of Sheridan, as in his study of General Thomas, Richard O'Connor is directing attention to men whose careers were of great significance but who have not received the attention their stature justifies.

Although the author is understandably partisan to Sheridan, he conscientiously pictures a human being with human faults. This is especially true of the chapters on Sheridan's early career. We see a young man suffering from a "runt complex"; the young Sheridan must have been difficult to endure in the close-knit society of the isolated frontier posts.

In his treatment of Sheridan's Civil War career, the author successfully establishes his subject as one of the ablest Union commanders. Unfortunately, by failing sometimes to present the full background of events, O'Connor makes some of Sheridan's achievements loom larger than is perhaps justified. For example, the importance of the early reorganization of the Army of the Potomac's Cavalry Corps to its eventual success under Sheridan could be more clearly indicated. Also, Sheridan's victories over Early in the Valley would gain perspective if the fatigue and attrition suffered by the Confederates by that time were more clearly shown.

The book is marred by occasional generalizations which are not always completely true. O'Connor asserts that Sheridan was the youngest senior commander on either side in the war—in fact, Hood was the same age, Stuart two years younger and Jackson only a few years older.

While this is of minor importance, O'Connor's eagerness to glorify Sheridan leads him to gloss over several matters

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By Walter Goerlitz $7.50

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which cannot easily be ignored. Sheridan's almost insubordinate behavior toward Meade, his senior commander, is freely condoned. Again, O'Connor's version of Sheridan's removal of General George Crook from command during the Apache campaign is completely one-sided.

It is regrettable that a more detailed account of Sheridan's postwar career is not given. Sheridan commanded the forces whose presence in Texas contributed to Maximilian's downfall; he commanded the Department of Missouri during the peak of the Indian campaigns; and he was General-in-Chief of the Army during much of the period of America's greatest public apathy toward military matters. All are extremely significant in American military history, and Sheridan's role in them deserves more thorough analysis.

It is only fair to say that while this book is occasionally controversial both in substance and emphasis, it is an important addition to the literature on the Civil War. —Lt. Col. John B. B. Trussell, Jr.

THE NEGRO IN THE CIVIL WAR. By Benjamin Quarles. Little, Brown & Co., 1953. 379 Pages; Illustrated; Index; $5.00.

Both Southern and Northern Negroes were far more active in the Civil War than is commonly realized. Negroes served as soldiers, sailors, scouts, spies and propagandists, doctors, nurses, chaplains, abolitionist crusaders and Underground Railroad workers.

Professor Quarles places proper emphasis on the military effort by the people of his race. We learn that nearly 180,000 former slaves were accepted in the Union Army, more than 29,000 in the Navy. U. S. Colored Troops, as they were designated, were organized into 166 regiments —145 infantry, seven cavalry, twelve heavy artillery, one light artillery, one engineer. There was considerable doubt among the Union brass as to how the former slave would conduct himself in battle, but he proved himself in fifty-two engagements. Five of these were major actions: Fort Wagner, Port Hudson, Milliken's Bend, Nashville, and Petersburg. Fourteen Negroes were awarded the Army's Medal of Honor. The Confederates intended using Negro soldiers too, on the recommendation of General Pat Cleburne. Several units were actually inducted, but too late to get into action.

A few errors have crept into the work, the most notable being the perpetuation of the yarn of the burial alive of Negro soldiers by Confederates during the "Fort Pillow massacre." Despite these slips, Dr. Quarles's history belongs on every Civil War shelf.—N.J.A.

U.S.S.R.—TODAY AND TOMORROW

RUSSIA—WHAT NEXT? By Isaac Deutscher. Oxford University Press, New York, 1953. 230 Pages; $3.00.

IMPERIAL COMMUNISM. By Anthony T. Bouscaren. Public Affairs Press, Washington, D. C., 1953. 256 Pages; Bibliography; Index; $3.75.

Of the many books on Russia there seems to be no end. Isaac Deutscher, a competent specialist in Russian affairs, has written a quickie on what Russia will do after Stalin's death. Malenkov, he believes, will soften Russian tactics and try to get along with the West. This in turn will strongly affect the theory and practice of communism both in Russia and in other countries. In short, things are going to change in Russia—but which way, neither Mr. Deutscher, nor probably Malenkov, can say with certainty. If you are an ardent Russian reader you will want this book. If you are not, it will interest you as much and as long as today's headlines.

Imperial Communism is a sort of almanac on what Russia has done and is doing in various parts of the world. The major countries are treated separately, the minor ones are lumped geographically. The ambitious scope of this book reduces the surveys to thumbnail sketches. The author differs somewhat from Deutscher in his opinion of Russian policy. Bouscaren believes every Russian move is logically plotted, whereas Deutscher points out how much improvisation is involved. *Imperial Communism* is a useful reference book on the past and present actions of world communism, despite almost inevitable errors of fact in a fact-crammed work, and a certain amount of coloring due to leaning heavily on newspapers for current events.—Richard Gordon McCloskey.

MORE CIANO

CIANO'S HIDDEN DIARY 1937-1938. Translated by Andreas Mayor with an Introduction by Malcolm Muggeridge. Dutton, New York, 1953. 220 Pages; $4.00.

As many American readers know, Count Galeazzo Ciano, son-in-law of Mussolini and Italian foreign minister from 1937-1942, kept a voluminous diary. After he fell from power in 1942, Count Ciano used this diary to protect himself; and, when the Fascist regime collapsed in 1943, it was employed as a bargaining piece by both Edda Ciano and the Nazis. The diary did not save its author; Ciano was shot in the back by a Fascist firing squad, but Edda managed to smuggle part of the manuscript out of Italy. This part covering the years 1939-42 was published shortly after the end of the war. The remainder, that covering the years 1937-1938, fell into the hands of the Germans who used it to keep Mussolini in line.

Like so many other blackmail documents, this part of the diary survived the collapse of both Fascism and Naziism and it was published in Italy in 1948. It is now made available to American readers. There is no question about the authenticity of this diary.

In the end both Ciano and his master destroyed themselves in their relentless struggle for power. Mussolini used to boast that he wanted only one sentence carved on his tomb: "Here lies the smartest animal that ever lived." These pages show that he was just smart enough to see where his dangerous course was leading Italy but not wise enough to draw back before it was too late. He was in addition stupid enough to encourage Ciano to put all his folly on paper. —H. A. DeWeerd

BOOKS RECEIVED

THE NAKED ISLAND. By Russell Braddon. Doubleday & Company, Inc. 286 Pages; $3.50. A personal experience story by an Australian who was captured by the Japanese.

WHO SPEAKS FOR MAN? By Norman Cousins. The Macmillan Company. 319 Pages; $3.50.

POPULAR MECHANICS ALBUM OF AVIATION. By Edward L. Throm and James S. Crenshaw. Popular Mechanics. 192 Pages; Illustrated; Index; $3.00. A history of famous flights and flyers.

CONTEMPORARY FOREIGN GOVERNMENTS, Third Edition. By Herman Beukema and Associates. Rinehart & Company, Inc. 610 Pages; Maps; Charts; Index; $5.50.

THE AMERICAN EMPIRE. By Robert R. McCormick. Chicago Tribune. 120 Pages; Maps; Index; $2.50.

THE UNITED STATES AND MEXICO. By Howard F. Cline. Harvard University Press. 452 Pages; Maps; Index; $6.00.

CAN RUSSIA SURVIVE? By F. B. Czarnomski. Philosophical Library. 128 Pages; Index; $2.75. The author says the answer is "No."

RIVER ON THE RAMPAGE. By Kenneth S. Davis. Doubleday & Company, Inc. 217 Pages; $3.00. The story of the Kaw River basin by the author of *Soldier of Democracy*.

THE IMPACT OF RUSSIAN CULTURE ON SOVIET COMMUNISM. By Dinko Tomasic. The Free Press. 287 Pages; Index; $4.50.

AMERICA REBELS. By Richard M. Dorson. Pantheon Books, Inc. 347 Pages; Illustrated; $5.00. Narratives by those who participated in the American Revolution.

MIDDLE EAST DILEMMAS. By F. C. Hurewitz. For Council on Foreign Relations by Harper & Brothers, 49 East 33d St., NYC 16. A Council on Foreign Relations book.

THE GREAT MAN: George Washington as a Human Being. By Howard Swiggett. Doubleday & Company, Inc. 491 Pages; Index; $5.00.

MAP INTERPRETATION. By G. H. Drury. The British Book Centre, Inc. 203 Pages; Illustrated; Index; $3.25.

THE MAPMAKER'S ART. By Edward Lynam. The British Book Centre, Inc. 140 Pages; Illustrated; Index; $4.50.

THE SCRIBNER TREASURY. Charles Scribner's Sons. 689 Pages; $5.00. Twenty-two classic short stories originally published by *Scribners* between 1881 and 1932.

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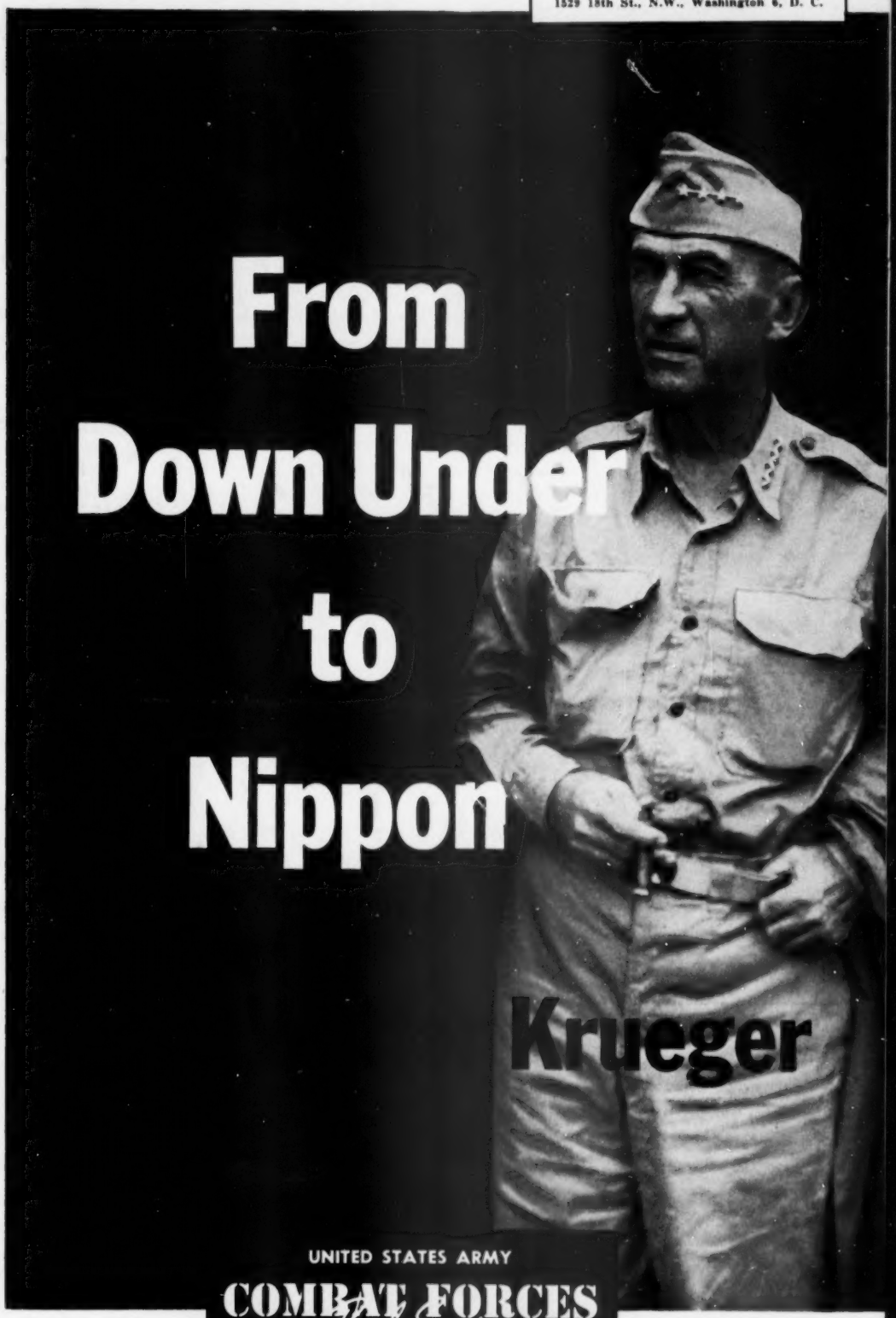

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